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# BASIC AND BATTLE PHYSICAL TRAINING

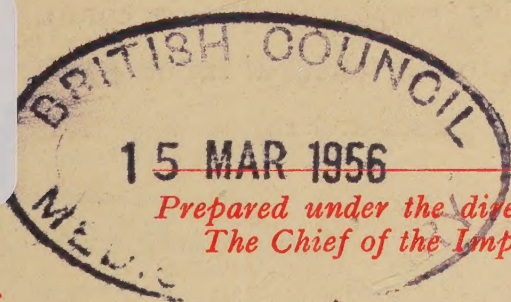
## PART II

### BASIC PHYSICAL TRAINING TABLES AND BASIC PHYSICAL EFFICIENCY TESTS

1944

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*Prepared under the direction of  
The Chief of the Imperial General Staff*

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## PREFATORY NOTE

Basic and Battle Physical Training is the main title of a series of pamphlets that will replace Purposeful and Basic Physical Training, 1942. Each pamphlet, dealing with one or more aspects of physical training, will be issued separately.

Part I.—General principles of basic and battle physical training and methods of instruction.

Part II.—Basic physical training tables and basic physical efficiency tests.

Part III.—Syllabus of battle physical training and battle physical efficiency tests.

Part IV.—Endurance training.

Part V.—Jumping, vaulting, climbing, scaling and obstacle training.

Part VI.—Pulling, pushing, lifting and carrying.

Part VII.—Throwing, balancing, mountaineering and ski exercises.

Part VIII.—Swimming, life saving and improvised aids to crossing water obstacles.

Part IX.—Boxing, wrestling and close combat.

Part X.—Shoot to kill (physical training for weapon training).

Part XI.—Team games and recreational training.

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### DISTRIBUTION

All arms ... ..	Scale A plus 1 copy for each APTC instructor and 1 copy per 50 trained soldiers or 120 recruits.
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# BASIC AND BATTLE PHYSICAL TRAINING

## PART II

### BASIC PHYSICAL TRAINING TABLES AND BASIC PHYSICAL EFFICIENCY TESTS

#### CHAPTER 1

#### BASIC PHYSICAL TRAINING TABLES FOR RECRUITS UP TO 35 YEARS OF AGE

##### SECTION 1—USE OF THE TABLES

1. The basic Tables 1-6 are intended to be used for the physical training of recruits up to 35 years of age and trained soldiers, under 35 years of age, who are in ancillary units or who have duties which do not require them to attain battle fighting fitness. As stated in Part I, Chapter 1, they are designed to produce mobility, strength, endurance, agility, dexterity, and speed, and to improve posture and carriage. They cover the entire period of recruits' training. Tables 1-3 are for use during the six weeks' training in the Primary Training Centre or Primary Training Wing, and Tables 4-6 during the period of corps training, the length of which will vary according to the arm of service to which the recruit is allotted after his period of primary training. Approximately two weeks will be spent on each of Tables 1-3 in the Primary Training Centre or Primary Training Wing. The amount of time spent on each of Tables 4-6 will vary according to the length of corps training of the particular arm of the service concerned. In general principle, however, the total time available should be approximately equally divided between the three Tables. All the Tables provide sufficient material from which the instructor can construct interesting, varied and effective lessons for the whole period during which the Table is in use.

##### SECTION 2—PROGRESSIVE TRAINING

2. All sound training is progressive and lessons in physical training must be arranged in accordance with the capabilities of the recruits for whom they are intended, gradually increasing in difficulty or severity from week to week and month to month, so as to ensure steady and systematic progression throughout the whole course of training. It will be appreciated that the Tables are not lessons.



Each Table contains much more material than is necessary for any one lesson. The instructor should therefore draw up a series of lessons, each successive lesson being made slightly more difficult than the one preceding it, according to the progress of those under instruction and the facilities and equipment available. In addition to progression in the amount and severity of the actual muscular work, there should also be progression in accuracy and precision of execution, and in quickness of movement and alertness. Although Tables have been provided for recruits up to 35 years of age and over 35 years of age, it should be understood that no age division can be entirely satisfactory and it will probably be necessary to grade the recruits according to their physique and capabilities. For recruits up to 35 years of age who are of poor physique or capabilities, it will probably be desirable to use the Tables for recruits over 35 years of age. Similarly, with recruits over 35 years of age whose physique and capabilities are above average, it may be desirable to use the Tables for recruits under 35 years of age.

### SECTION 3—CONTINUITY OF TRAINING

3. In order to ensure the desired results it is essential that the training should proceed regularly to its conclusion, unspoiled by interruptions. Unless continuity of training is observed, proper progression is impossible and consequently a high standard of development cannot be attained. Every effort must be made to organize recruits' physical training on lines which will allow the instruction, once commenced, to continue without interruption for 40 minutes daily (actual working time) for the prescribed period of training.

### SECTION 4—CONSTRUCTION OF TABLES

4. The general arrangement of each Table and the approximate time to be spent on each part are as follows :—

#### PART I—MOBILITY (5 minutes)

5. The exercises in this part of the Table are mainly rhythmical in character and are intended to maintain or increase the mobility of the various joints of the trunk and limbs. In addition, they serve to warm the body and to prepare it for the more vigorous and strengthening exercises which come later in the Table. The game-form running activity with which this part is commenced stimulates circulation and respiration and should provide a brisk and enjoyable start to the lesson, putting the recruits thoroughly "on their toes" physically and mentally. The breathing exercise with which this part of the Table finishes is intended to improve the mobility of the ribs and to teach the recruit to use the whole of his breathing mechanism in the most efficient manner,



## PART II—STRENGTH (12 minutes)

6. This part consists of exercises and activities which are designed to strengthen the main muscle groups of the trunk, arms and legs. In addition to trunk and heaving exercises, this part includes strengthening games, pulling, pushing, lifting and carrying exercises, and, in Tables 4 to 6, shell exercises and rifle exercises. In the trunk group, alternative exercises are given to allow a selection according to the facilities and apparatus available and to meet the needs of indoor and outdoor work.

## PART III—ENDURANCE (6 minutes)

7. This part includes basic training in walking and running and is intended to enable each recruit to develop his powers of endurance through a knowledge and practice of correct technique. It serves in association with the special additional periods devoted to endurance training, as a valuable training for route marching and forced marching. In Tables 5 and 6 obstacle training is also included in this part of the Table.

## PART IV.—AGILITY, DEXTERITY AND SPEED (15 minutes)

8. This part includes jumping, vaulting, groundwork, throwing, climbing, balancing and sprinting exercises, and individual fieldcraft movements. In the later Tables it also includes surmounting obstacles. It is intended to assist in the development of agility, bodily skill, control, and the ability to get quickly "off the mark" and to move at speed. It should mark the climax of the lesson and provide a period of brisk and enjoyable activity. A wide range of activities is provided so that they can be varied from lesson to lesson. The relay race, with which every lesson should end, provides a vigorous, interesting and enjoyable finish and affords an opportunity for the introduction of healthy competition between the various teams.

## PART V—CARRIAGE (2 minutes)

9. This part of the Table is designed to assist in the development of good carriage in the recruit through purposeful coaching and correction. Good carriage must be the first technical aim of the instructor, as it establishes the right psychological attitude and that pride in his bearing which is the basis of his training as a soldier. The key to good carriage is the ability to raise the head to its full natural height without tenseness, the chin neither being drawn in forcibly nor poked out. Once this carriage is achieved, all other parts of the body fall into their proper relationship and correct poise is maintained throughout all bodily movement. This part of the



Table also gives an orderly ending to the lesson and brings the class under the more formal control of the instructor, after working in small groups during the activities of the previous part of the Table.

## SECTION 5—METHOD OF INSTRUCTION

10. The success of the training depends on the intelligent application of each exercise and of the lesson as a whole. "Training by interest" should be the keynote of instruction since interest makes learning much easier. The instructor's own interest and enthusiasm are vitally important in rousing the interest of his class. It is essential that every lesson should be carefully prepared and planned, the gymnasium or training area used to the best advantage and the apparatus laid out ready for use and easily accessible. The instructor must know thoroughly the subject he is teaching. He must keep the learner constantly in mind, trying to see things from his point of view and adapting the work accordingly.

### PART I

11. For this part of the lesson the "follow the leader" method of instruction will be used. The first exercise is commenced after a simple command such as "First exercise with me—begin". The instructor, standing in front of the class, starts the exercise and the class imitate him. With recruits in the early stages of training the instructor should at first perform the exercise slowly and deliberately, the class picking up the correct speed of the exercise as quickly as possible. After performing the exercise several times with the class the instructor stops and the class continue, the instructor meanwhile coaching, stimulating and correcting faults. He then picks up the exercise again with the class and after a simple command such as "To the next exercise—change", he leads the class into the next exercise. It is obvious that not every member of the class will make the change at precisely the same moment. They see what is required and pick up the exercise as quickly as possible, working in time with the instructor. The simple commands should be varied as much as possible to avoid monotony. When the exercises are well known by name, the instructor may name the next exercise, the class commencing it after the instructor has given the executive word "Change". When the correct technique of the exercise has been acquired by the class, a "leader" may be placed in front to set the correct timing of the exercises. Naturally, the instructor controls the timing set by the "leader", but having a "leader" releases him, to some extent, for the more important work of coaching and correcting faults. This method of teaching "through the eye" encourages continuity and provides a pleasant start to the lesson. If it is felt necessary to put the class "on their toes", one or two quick reaction games or activities may be intro-



duced for a moment or two into Part I, but care must be taken not to lose the continuity of the work and only well-known games or activities, or those requiring the very minimum of explanation should be used. Immediately the activity is finished the class should continue the previous exercise, or commence the next one, whichever is indicated by the instructor. So far as possible, this part should be carried out without stopping for demonstration or explanation, provided that this is not done at the expense of the correct performance of the exercises. If a general fault is being committed, however, the class should be stopped and a quick demonstration given. The pause should only be momentary and work should be resumed as quickly as possible.

12. When changing from one exercise to the next it is important that the executive word "change" should be given in good time, so as to allow for a smooth unhurried change to the next exercise. If the executive word is given too late, the change will be jerky and hurried.

13. The "follow the leader" method of commanding should be used for exercises 2 to 7 inclusive. The class should finish exercise 7 (on the instructor's command), in the position of attention. The instructor will then give the command "For breathing exercise—ready." The class will jump to the astride, hands on hips position and immediately commence full range breathing, each man breathing in his own natural rhythm.

14. Although a formal breathing exercise is included only in Part I of the Table, the instructor should frequently remind the class to maintain regular and even breathing during the performance of the various exercises. This is especially important in trunk and heaving exercises where there is often a tendency to hold the breath.

## PART II

15. For this part of the lesson the class may be taken as a whole or divided into two groups according to local conditions, under assistant instructors, if apparatus is limited or more individual attention is considered necessary. For Part II of the lesson the "demonstration method" of instruction will be used. The instructor will give as good a demonstration as possible of the exercise to be performed while the men are standing or sitting at ease. The men will then perform the exercise themselves and the instructor will coach and correct faults. Each exercise will be demonstrated and practised in turn. When the exercises are well known and correct technique has been acquired, there is no need to continue demonstrating every exercise every lesson. The method of commanding exercises in Part II will be more formal than that employed for Part I, since each exercise will be carried out to definite words of



command. Each trunk exercise will generally be performed two or three times to the instructor's commands and will then be repeated two or three times in each individual recruit's "own time".

It is very important that the continuity of this part of the lesson should be maintained by the judicious introduction of quick reaction games and activities.

### **Game-form strengthening activity**

16. Only ONE game will be played and the selection should be changed each lesson.

### **Trunk exercises**

17. Alternative trunk exercises are given to allow a selection according to whether exercises in the standing position only are possible, or whether exercises involving sitting or lying can be included, or whether exercises with medicine balls or logs are preferred. The free-standing exercises in the standing position should only be used if it is impossible to include exercises in the sitting or lying positions. Only ONE exercise from each of the sub-groups i, ii, and iii will be chosen for each lesson. One or two quick reaction games and activities should usually be introduced during the trunk exercises.

18. The medicine ball exercises involve working in pairs, so that only one ball is required for every two men in the class. Where the distance between partners is not specified, this will be left to the instructor's discretion and he will naturally vary the distance according to the proficiency of the class. In Tables 4-6 trunk exercises with a log are included as an additional alternative. For these exercises the number of recruits allotted to each log should be governed by its weight. About 15 lb. to 20 lb. to each man is a satisfactory amount, *e.g.*, eight men to a log 120 lb. to 160 lb. in weight. It is also important that all the men on a log should be of about the same height.

When medicine ball or log exercises are selected, the quick reaction games and activities should include the use of medicine balls or logs and, so far as possible, the game or activity should end in the starting position for the next exercise.

### **Pulling, pushing, lifting and carrying**

19. Only ONE exercise for any one lesson will be selected from the four alternatives given in each table.

Details concerning the correct technique of pulling, pushing, hauling, lifting and carrying will be found in Part VI. When the correct technique of lifting and carrying has been acquired by the recruits, relay races involving lifting and carrying either "dead or live" weights, or lifting and carrying over or along low obstacles (*e.g.*, benches), should be introduced into the lesson.



During corps training as much use as possible should be made of articles of unit equipment (*e.g.*, ammunition boxes, mortars, etc.), for practice in lifting and carrying, and of gun manhandling training equipment (*see* Figs. 253-258) for practice in pushing, pulling and hauling.

### Heaving and abdominal

20. Only ONE of the two alternative exercises will be selected. When sticks are used as the apparatus for these exercises, the men will work in threes, two acting as supporters and standing astride and facing each other on benches with the stick held on their shoulders, whilst the third performs the exercise (Fig 30). In the early stages of the heaving exercises, and until the men have gained the requisite strength, it may be necessary for them to work in pairs, one performing the exercise and the other assisting him. When sticks are used for the heaving exercise it will usually be necessary for the performer to bend his knees backward to enable his arms to be fully stretched after the arm bending movement. He will start the second and subsequent arm bendings from this position.

### Rifle exercises

21. Standard I (elementary, intermediate and advanced parts) of the Rifle Exercises is included in Tables 4-6, one part in each of the three Tables. All FOUR exercises will be taken whenever rifle exercises are included in Part II of the lesson. When rifle exercises are selected it will be necessary to omit either the exercise from the pulling, pushing, lifting and carrying group, or the exercise from the heaving and abdominal group. In the early stages it may even be necessary to omit the exercises from both these groups. Before carrying out these exercises rifles should be inspected as laid down in weapon training, and targets should be indicated. Actions should be cocked, safety catches applied and slings loosened. The instructor himself should set the exercises with his own rifle. Each exercise should be taught separately until all are known, when they should be linked together and carried through without a pause. One-handed or one-sided exercises should be repeated to both sides. Quick reaction activities in the form of firing positions should be introduced frequently and unexpectedly on a visual or sound signal from the instructor. When taking up a firing position, safety catches should be pushed forward and only the first pressure taken. On continuing the exercise the safety catch should be re-applied. For these exercises the class must be well spaced to prevent injuries from swinging rifles.

Not more than 5 minutes should be spent on rifle exercises in any one lesson.

Details concerning technique of these exercises will be found in Part X.

## Shell exercises

22. Several shell exercises are included in each of Tables 4-6. For these exercises dummy shells are used. If these are not available, logs, or lengths of iron piping filled with concrete and of about the same size as the shells may be effectively used. ALL the shell exercises in the Table will be taken whenever shell exercises are included in the lesson. Not more than 5 minutes should be spent on shell exercises in any one lesson. It will also be necessary to omit either the exercise from the pulling, pushing, lifting and carrying group, or the exercise from the heaving and abdominal group. As with rifle exercises, in the early stages it may even be necessary to omit the exercises from both these groups. The instructor should teach the exercises separately at first and later, when they are known, he should link them together to form a series to be carried out without a pause.

Details concerning technique of these exercises will be found in Part III, Chapter 3.

Suggested quick reaction games and activities are given in each Table and one or two should be chosen for inclusion during the shell exercises.

## PART III

23. The correct technique of basic walking and basic running is described in Part IV. The first few lessons in Table 1 will be devoted to careful demonstration on the part of the instructor and practice by the recruits of the correct technique of walking and running. In subsequent lessons the walking and running will be taken at the speeds indicated in the Tables. It is essential, however, that correct technique should be acquired and stress must always be placed on correct technique. So far as possible, training in walking and running should be given out of doors. The class may work individually, walking and running round a prescribed course, or as a section in threes. If they are working on the individual method it is unnecessary to attempt to keep step with each other, but if they are working as a section, it is essential that they should walk or run in step. In Tables 1-4 the period of 6 minutes should be divided equally between walking and running. In Table 5 the whole period of 6 minutes should be devoted to walking, running, a combination of walking and running, or to obstacle training. In Table 6 the whole period should be devoted to either a combination of walking and running or to obstacle training. In Tables 1-4 the emphasis should be on the development of power, and in Tables 5-6 on the application of power through skill to acquire economy of effort.

NOTE.—As walking and running endurance training is better carried out while wearing boots, some rearrangement of the lesson may be



found desirable to allow the recruits time to change into boots before commencing Part III of the lesson. To facilitate this, the order of the lesson should be rearranged so that Part III follows Part IV. Whenever this change from shoes to boots is made, Part V will also be performed wearing boots.

## PART IV

24. For the first 12 minutes of this part the class will be divided into three or four groups, according to the size of the class and to the space and apparatus available. The number of activities should be chosen accordingly from the large variety given in each Table. By choosing the activities carefully, the necessary variety and interest may be maintained from lesson to lesson.

The 12 minutes allotted to these group activities should be equally divided between three or four activities chosen for the particular lesson, the men changing from one activity to another, as in Potted Sports, every 3 or 4 minutes, so that adequate practice is given in each activity. The change from one activity to the next will be made competitive, the men sprinting from place to place by the shortest route. As soon as the new place is reached the men will quickly pick up their dressing and stand at ease, or immediately commence the new activity, whichever is previously directed by the instructor. The instructor, while maintaining control over the whole class, must always "stand in" for the activity which involves the greatest element of danger if performed incorrectly.

### Jumping and vaulting

25. In jumping and vaulting the height of the apparatus will depend upon the ability of the men, and the instructor will use his own discretion in this respect. Special attention must be paid to the correct method of landing, *i.e.*, with the feet and knees together and pointing forward. During the first few lessons the instructor will usually control by separate commands the jump or vault of each individual member of the group. After the men have gained some degree of proficiency in the various jumping and vaulting exercises, these may be performed in stream, quickly one man after another, or passing from one jump or vault to another in a similar manner to obstacle training. If the regulation pattern of apparatus for jumping and vaulting is not available, reference should be made to Part III, Chapter 4 for information concerning improvisation of apparatus.

### Groundwork

26. For the groundwork exercises it is often possible for the men to work across the mats in waves of four or six men, according to the number of mats available, instead of one man at a time working

from one end of the mats. In the initial stage it may be desirable to have only one man at a time performing the groundwork exercise, in order that he may receive individual attention and coaching, but this stage should be passed as soon as possible so that "waiting for turns" may be reduced to a minimum.

### **Throwing**

27. For the throwing exercises a stone, dummy grenade or improvised ball will be necessary, usually one to every pair of men will be sufficient. For details concerning the technique of throwing, see Part VII.

### **Climbing**

28. This must be taught carefully and accurately from the first lesson with special attention to correct technique. It will be necessary to include climbing in every lesson to enable the recruit to become proficient. In addition, it is often possible for the recruit to practise climbing several times during Group Activities in the same lesson.

Wherever possible, when ropes are erected out of doors for climbing they should be between 20 and 24 ft in height.

### **Balancing**

29. In these exercises the arms and shoulders must be kept relaxed and be allowed to move freely and naturally as required to maintain balance. A sufficient amount of apparatus should be used for the balancing exercises to enable several men to perform the exercise simultaneously, thus reducing the time spent on "waiting for turns" to a minimum.

### **Individual fieldcraft movements**

30. For the individual fieldcraft movements, especially for the various forms of crawling, the men may usefully work in pairs, one coaching the other. Mutual coaching is popular and keeps both men alert. The fieldcraft games should be played out of doors on gravel or similar surface if possible. The importance of every recruit acquiring the correct technique of "going to ground" as quickly as possible cannot be overemphasized. In the later Tables several of the fieldcraft movements are performed whilst carrying a rifle.

### **Sprinting**

31. The method of working in pairs suggested above is also useful for such a feature of sprinting as the crouch start. The emphasis should be on getting off the mark as quickly as possible. It is desirable that the training in sprinting, especially in the later Tables, should be given out of doors whenever possible.



## Surmounting obstacles

32. The correct technique of surmounting individual obstacles must be carefully taught in this part of the lesson in Table 3, so that later, during corps training, several obstacles may be linked together in the form of an obstacle course, and this activity included in the endurance part of the lesson.

The value of indoor obstacle courses should not be overlooked wherever outdoor facilities are not available. The fixed and portable apparatus in the gymnasium can usually be arranged in the form of an obstacle course and much valuable preliminary training can be given indoors.

33. In the later stages of recruits' training when the correct technique of jumping, vaulting, and groundwork, etc., has been acquired it is useful to include an additional "return" activity after the main vault or jump, etc., has been performed and the man is on the way back to his place in the group, *e.g.*, a running stride jump after a through vault over the horse, or a forward roll after a balance exercise.

## Relay race

The last 3 minutes of this part of the lesson will always be devoted to a relay race, selected from those given in the Table, or from any previous Table. The important points to remember about relay races are :—

- (a) Each team must not consist of more than six men so that there is the maximum amount of activity for every man.  
If the class has fallen-in in four files, relay races can frequently be played across the gymnasium, so that four men constitute one team.
- (b) Every team must consist of the same number of men.
- (c) In all relay races where it gives an unfair advantage to shorten the distance occupied by a team (*e.g.*, straddle relay or stick jumping relay) the first and last man of each team must stand in a chalked circle, or every man must run over a prescribed course) *e.g.*, round a medicine ball placed well out in front of the file and round another ball similarly placed at the back of the file).
- (d) There must always be clearly defined starting and/or finishing lines, otherwise fair play is impossible.
- (e) Relay races must be played "all out" at full speed from start to finish and the instructor should never fail to tell the class the order in which the teams finished the race.

It is impossible to emphasize too strongly the importance of conducting these races in the proper spirit. A bad or apathetic instructor will ruin any game. The instructor must make these relay races "go" by means of his own personality and enthusiasm.

## PART V

34. The instructor will put out a marker and the class will fall in on the marker. This will be followed, as detailed in the Tables, either by a short spell of marching with special attention to carriage and good poise of body, or by the position of attention, which will be carefully coached and corrected by the instructor.

### SECTION 6—POSITIONS AND MOVEMENTS

35. Every exercise in the mobility, strength, agility and carriage parts of the physical training Table consists of :—

- (i) A starting position.
- (ii) A movement, clearly defined as to range, direction and speed.
- (iii) A finishing position.

Each of these must be correct, otherwise much of the value of the exercise will be lost. It is especially important that the starting position is correct before a movement is commenced, and instructors should pay just as much attention to the correction of faulty starting and finishing positions as to the correction of faulty movements. In the initial stages of recruits' physical training, special attention should be paid to the teaching of correct form in the fundamental starting positions, and recruits must be taught to appreciate the importance of correctness in these positions.

36. Although "teaching through the eye" (*i.e.*, by means of demonstration), is valuable and necessary at all stages of training, it is particularly important during the initial stages of recruits' training, and the instructor's demonstrations should especially emphasize correctness of form in the starting and finishing positions, as well as in the range, direction and speed of the movement.

### SECTION 7—POISE

37. Poise is closely related to posture, for without good posture good poise is almost impossible to achieve. Good poise may be defined as the most economical method of carrying the body in relation to movement, so as to avoid undue stresses and strains. In marching and running the poise of the body must alter in relation to momentum and configuration of the country to be traversed. In well trained men whose posture is good, the necessary alterations in body poise due to the above causes will take place almost without conscious effort. Balance and bodily control are important factors in good poise, and they must not be overlooked when correcting faulty poise.



## SECTION 8—RHYTHMICAL EXERCISES

38. The Army system of physical training contains many rhythmical exercises and activities. All the exercises in Part I of the Table are essentially rhythmical in character. The special characteristics of rhythmical exercises are continuity and repetition. They are performed in a smooth, continuous and even manner, and if they are to have the maximum effect there must be nothing jerky and angular about them. When performed correctly, they make considerable use of momentum, gravity and the elasticity of muscles. They are especially valuable for improving the mobility of joints; they encourage deep and free breathing, and stimulate circulation and digestion. To perform these exercises correctly, however, the ability to relax and to use only those muscles required for the movement is essential. At the beginning of his training the recruit often performs these exercises in a jerky and incoordinated manner, and with too great an expenditure of effort. Careful instruction is most essential in the early stages of training if the recruit is to learn how to perform rhythmical exercises and movements of all kinds with the minimum expenditure of effort.

39. The majority of the exercises in Part I of the Table are of the rhythmical swing type, in which the movements are performed continuously and smoothly from the limit of the movement in one direction to the limit in the opposite direction. The last phase of the outward movement in exercises of this type should be a quiet pressure or squeeze, rather than a jerk. Particular care is necessary with these exercises to see that good bodily posture is maintained throughout, and isolation of muscular action is essential. It is also very important in exercises of this type that the correct form and range of each movement must be insisted upon by the instructor, otherwise the exercises will lose their corrective value and slack, ineffective work will result. The instructor must also avoid the tendency to use the same speed for all the rhythmical exercises in Part I of the lesson. He must appreciate the fact that every rhythmical exercise has a characteristic speed which will yield the maximum effect. The correct speed in any exercise demands just enough energy to keep the men alert and to give smoothness and ease of movement. If the speed of the exercises in Part I of the Table is too slow, they become boring and somnolent, and those which consist of movements in a horizontal plane require unnecessary muscular effort, while those requiring movements in the vertical plane do not make use of the natural momentum of the moving part. In addition, when these exercises are performed too slowly, the moving part appears to be carried rather than swung, and the whole appearance of the exercise is wooden and mechanical. Too quick a speed, on the other hand, leads to poor form and slack work. The movements tend to be "clipped" and lose much of

their corrective value. It will be appreciated from what has been written above that the setting by the instructor of the correct speed for each individual rhythmical exercise in Part I of the lesson is most important. From personal experience the instructor should know the most suitable speed for the various exercises.

40. Part IV of the Physical Training Tables for Recruits also contains several military movements in which the use of rhythm results in a great saving of physical energy. These include crawling, climbing and throwing. The recruit should be taught from the very earliest stages the important part rhythm plays in these movements.

## SECTION 9.—RELAXATION AND ISOLATION OF MOVEMENT

41. Closely linked up with rhythm is relaxation. Relaxation should be associated with all movements. It is only through the relaxation of antagonistic muscles that a movement can be taken to its fullest extent, and the more complete the unconscious relaxation of muscles not required for the particular movement, the greater is the saving of nervous and muscular power. This ability to relax underlies all movements which are performed with ease and maximum economy of effort. So far as rhythmical movements are concerned, they are of little value when performed with tenseness and without isolation or localization of movement. The starting point for all rhythmical movements lies in relaxation of all muscles not absolutely essential for the particular movement. Complete relaxation is only possible when lying down, the whole body then being supported by the floor. The soldier must learn to relax all muscles not required in such movements as walking, running, crawling, climbing, lifting and pulling, in order to conserve the maximum amount of energy. He must also learn to relax all antagonistic muscles in the mobilizing rhythmical exercises of Part I of the Table, if he is to obtain the maximum benefit from them. Excessive relaxation, however, must never be permitted since this always results in aimless and formless movements.

42. One of the most important factors contributing to economy of effort and power of endurance is isolation of muscle action by bringing into action only those muscles which are absolutely necessary for the performance of the movement. Much concerning isolation of muscle action and economy of effort can be learned from watching the movements of animals, *e.g.*, the jump of a cat, or the movements of a racehorse. In these movements the nervous co-ordinations are highly developed; the expenditure of energy is finely adjusted and the rhythm and isolation of movement are perfect. Many recruits find considerable difficulty in isolating



their movements, and it is often a slow process to train brain and nerves to accurate and precise localized work. Many men call into action, even in comparatively simple movements, a great number of muscles unconnected with the movement; often using the trunk muscles, or even those of the face, when working with the arms. Inability to isolate muscular movement results in tense, angular, and frequently ugly movements.

## SECTION 10.—SEQUENCE OF EXERCISES

43. The sequence in which the exercises are shown in the Table is the order in which they should be performed in the lesson. This arrangement of the exercises is designed to ensure the fullest benefit from the lesson, and to enable the instructor to memorize it more easily.

## SECTION 11.—CLASS ARRANGEMENTS

44. At the beginning of the training the class will be divided into teams and the men will work in these teams throughout the training. By this method the application of games and quick reaction activities will be simplified, the team spirit will be inculcated and time will be saved by avoiding unnecessary drill movements. Variations in class arrangements should frequently be introduced. This element of unexpectedness in class arrangements adds to the spirit of the lesson. The class should not always work in lines. Circles, semi-circles and square formations are useful variations and should frequently be used as alternatives to line formations.

## SECTION 12.—MINOR GAMES AND QUICK REACTION ACTIVITIES

45. Minor games should be given an important place in the basic physical training of recruits, since well directed play can be made a very useful channel for the development of physical efficiency, good lung power, a strong heart and a stable nervous system.

Games quicken the senses, and consequently the reaction time to any outside stimulus which may be sudden and unexpected.

The value of games will depend upon their application. If conducted with purpose and energy, the results will be entirely satisfactory. The instructor must ensure a rigid observance of all details connected with them and they must never be allowed to become purposeless or slack.

46. Intimately connected with play and games is the question of competition. Well directed competition is a valuable aid in

stimulating team spirit and appeals to the competitive instincts. Used judiciously and with care, it can be a most valuable spur to effort, since no man wishes to stand out as weaker, slower or less able than his fellows. It thus sets a standard of achievement and calls for increased practice in order to develop further skill and ability.

47. Quick reaction activities should be introduced into any part of the lesson whenever the men need "putting on their toes" physically or mentally. In addition to helping to maintain interest and enjoyment in the lesson, these activities are of particular value to the soldier in helping the development of short reaction time. It is important that they should be varied in type and occupy as many men as possible at one time.

It is essential that they should be introduced at the right moment and they must not be overdone or they will entirely lose their value. The number of quick reaction activities in any one lesson will depend upon the mental capabilities and general alertness of the particular class of recruits and on such external factors as the type of day or the surroundings.

### SECTION 13.—DRESS

48. During primary training when Tables 1-3 are in use, the recruits will normally wear physical training kit and shoes. As a general rule, they will work stripped to the waist. If conditions do not permit of this, they will wear the PT vest. For such activities as climbing and surmounting obstacles it may be necessary to wear denim trousers and PT vest. During corps training when Tables 4-6 are in use, denim trousers and shoes will be worn, the men working stripped to the waist as before. It is inadvisable to wear a shirt during physical training. If for any reason a PT vest is not available, and it is necessary to wear some kind of garment, the cardigan should be worn. This permits of the shirt being kept for wear after exercise when the cardigan is taken off.

### SECTION 14.—PREVENTION OF ACCIDENTS

49. The surest way to prevent accidents is a careful adherence to the principles of gradual progression. Care must be taken to see that improvised apparatus is properly supported to prevent slipping. For vaulting and similar activities, the instructor or a group leader must carefully "stand in" whenever there is a possibility of a man falling in the performance of the activity. "Standing in" consists of three stages—assisting, receiving and saving. The latter stage is probably the most difficult, since the man who is "standing in" must constantly be on the alert to prevent a fall or to give any necessary help.



There is a definite method of "standing in" for every vault and groundwork exercise, and the instructor must be thoroughly familiar with these methods. When assisting, a firm grasp should be taken of the performer and in the early stages of practice the grasp should be maintained until the landing is completed.

50. In the actual work of assisting, care should be taken not to interfere unnecessarily with the effort of the performer, though the man "standing in" must always be sufficiently near to be able to reach the performer immediately, in order to assist him, or to prevent a fall. It gives men confidence in the early stages of their training to know that the instructor is "standing in", but it must be remembered that they should be trained to rely upon themselves and to have confidence in their own powers. As they gain confidence, strength and skill, the instructor should therefore dispense with assistance. As stated above, however, he must at all times be ready, and in a suitable position in relation to the apparatus, to assist a performer or to prevent an accident.

51. A slippery gymnasium floor, besides preventing the proper performance of exercises, is a constant source of danger. Care should be taken not to place vaulting apparatus or mats too near to walls or radiators. It is also important that jumping and vaulting should always be taken away from direct sources of light.

## BASIC PHYSICAL TRAINING TABLES FOR RECRUITS UP TO 35 YEARS OF AGE

### TABLE I

Quick reaction games and activities should be introduced during any part of the lesson, as required, to keep the recruits mentally and physically "on their toes".

#### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson:—

- (a) Racing round the course.
- (b) Dodge and mark.

2. *Arm and shoulder*.—(Astride, one hand on hip.) One arm circling backward. (Try to "brush" the ear with the upper arm and keep the hand loosely closed.) (Fig 1.) Later, (Astride.) Arm circling backward. (Fig 1.)

3. *Trunk*.—(Astride.) Trunk bending from side to side. (Keep arms close to body and allow palms of hands to slide up and down the outer sides of legs.) (Fig 2.)

4. *Leg*.—Skip jumping. Later, skip jumping to crouch with finger support after given count. (Fig 3.)

5. *Arm and Shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1), followed by arm swinging forward-sideways (2). (Keep arms in line with shoulders and hands loosely closed throughout the exercise.) (Fig 4.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands and trunk unrolling. (The unrolling should be a little slower than the relaxed trunk bending downward.) (Fig 5.)

7. *Leg*.—Astride jumping. Later, astride jumping with arm swinging sideways. (Keep arms straight and fingers stretched.) (Fig 6.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) Line tug-of-war. (Fig 7.)
- (b) *Poison*. (Fig 8.)
- (c) Pushing and pulling in pairs. (Figs 9 and 10.)

### 2. *Trunk*

- (a) *Lateral*

#### Free-standing

- (i) (Side support, hip on floor, upper leg slightly backward, one hand on hip.) Hip raising high. (Keep lower leg in line with body in side support position and make as high an "arch" as possible.) (Fig 11.)

or

- (ii) (In pairs, facing, one foot forward, butcher's grip, one arm straight, one arm bent, arms level with shoulders.) Sawing. (Keep arms level with shoulders throughout, and perform exercise moderately slowly.) (Fig 12.)

or

#### Medicine ball

- (iii) (In pairs, astride, back to back, about 1 yd apart.) Figure-of-eight passing backward to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 13.)





FIG. 1.



FIG. 2



FIG. 3.



FIG. 4

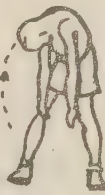


FIG. 5.

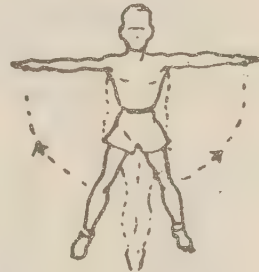


FIG. 6

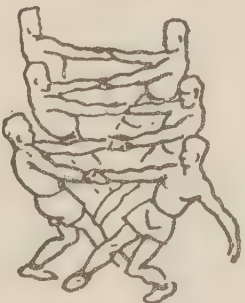


FIG. 7

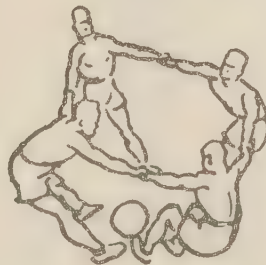


FIG. 8.

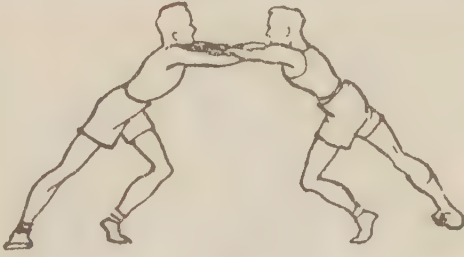


FIG. 9.

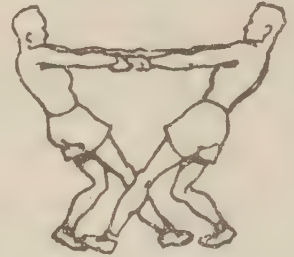


FIG. 10.



FIG. 11

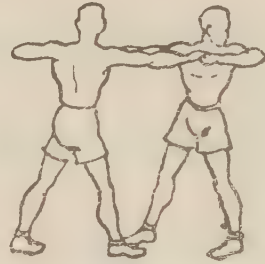


FIG. 12.

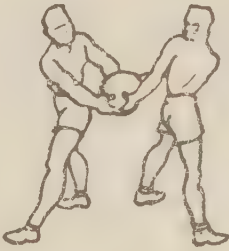


FIG. 13.



FIG. 14

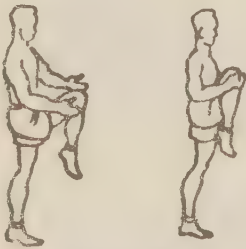


FIG. 15.



FIG. 16



FIG. 17.



FIG. 18





FIG. 19.

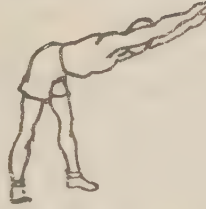


FIG. 20.



FIG. 21.

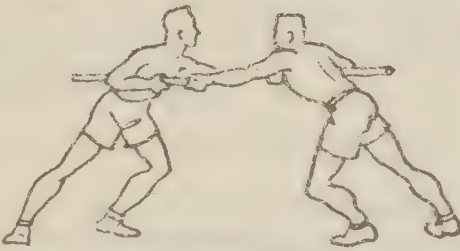


FIG 22.

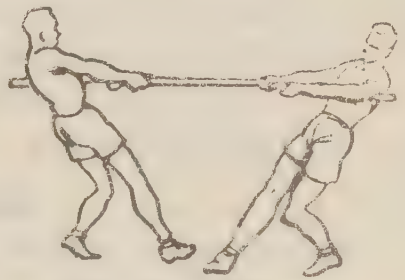


FIG. 23



FIG 24

*(b) Abdominal***Free-standing**

- (i) (Back lying, knees bent, feet on floor, arms straight and close to body, palms on floor.) Head and shoulder raising. (Keep arms straight throughout the exercise.) (Fig 14.)

*or*

- (ii) One knee raising high and pressing towards chest with assistance of hands, left and right. (Raise knee as high as possible before pressing towards chest with assistance of hands. Keep body as erect as possible.) (Fig 15.)

*or***Medicine ball**

- (iii) (In pairs, sitting, side by side, facing opposite directions, about 1 yd apart.) Leg raising and passing ball under knees to partner. (Keep legs straight.) (Fig 16.)

*(c) Dorsal***Free-standing**

- (i) (Prone lying, hands on hips.) Trunk bending backward. (Bend as high as possible in back.) (Fig 17.)

*or*

- (ii) (One foot forward, hands on hips.) Trunk bending backward. (Bend as high as possible in back.) (Fig 18.)

*or***Medicine ball**

- (iii) (In pairs, astride, facing, several yards apart, ball held in front of chest with arms bent.) Relaxed trunk bending downward and stretching forward, throwing ball forward to partner. (Figs 19 and 20.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Basic technique of pulling position on rope. (Fig 21.)

*or*

- (ii) (In pairs, facing.) Pushing and pulling, using one or two sticks. (Figs 22 and 23.)

*or**(b) Lifting and carrying*

- (i) Basic technique of lifting from floor, carrying and lowering various shaped objects, 50-60 lb in weight. (Fig 24.)



or

- (ii) Two, three and four-handed methods of lifting from floor, carrying and lowering an injured man. (Figs 25-28.)

#### 4. *Heaving and abdominal*

- (a) *Heaving*.—(Hanging, under grasp.) Arm bending, with or without assistance, until eyes are level with top of apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 29.)

or

- (b) *Abdominal*.—(Hanging, over grasp.) One knee raising high, left and right. (Figs 30 and 32.) Later, knee raising high (wall-bars, beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 31.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Basic technique of walking with special attention to foot action, poise of body and co-ordination of leg and arm action. (Fig 33.) Later, walking at a speed of 5 miles per hour (approximately 73 yds per half-minute).

and

2. *Running (3 minutes)*.—Basic technique of running with special attention to relaxation and correct arm, leg and foot action. (Fig 34.) Later, running at a speed of  $8\frac{1}{2}$  miles per hour (approximately 125 yds per half-minute).

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

#### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 2 ft to 4 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward. (Fig 35.)
- (ii) Running forward high jump, gradually increasing height of apparatus from 2 ft (jumping stands and rope, low obstacle or improvised apparatus). (Fig 36.)
- (iii) Standing long jump over marked space. The distance of the first line from the take-off line should be approximately 5 ft, with additional lines every 6 ins up to approximately 8 ft. (Fig 37.)
- (iv) Jumping the bag. (Fig 278.)



FIG. 25.



FIG. 26.



FIG. 27.



FIG. 28.

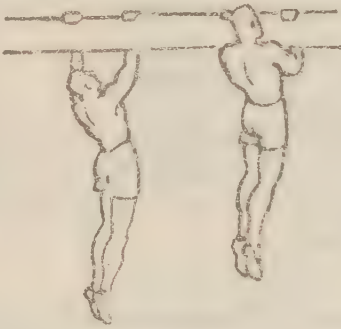


FIG. 29.

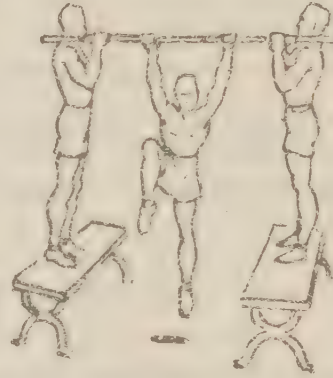


FIG. 30.

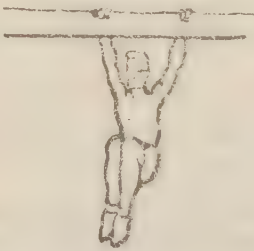


FIG. 31.



FIG. 32.



FIG. 33.



FIG. 34.



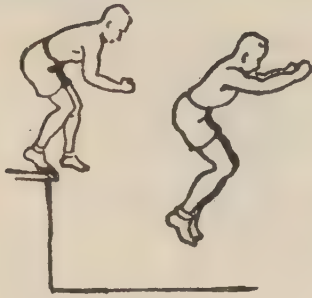


FIG. 35.



FIG. 36.

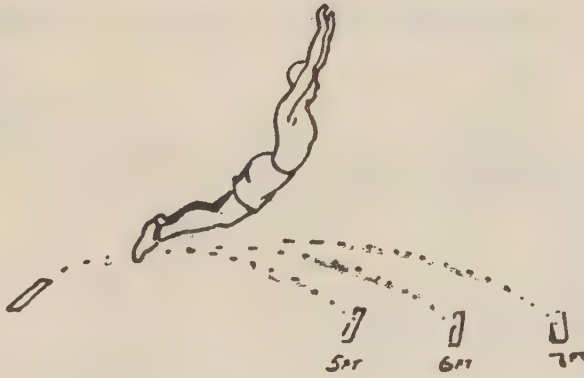


FIG. 37

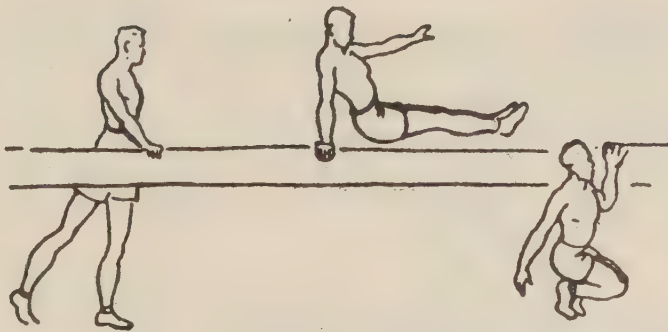


FIG. 38.

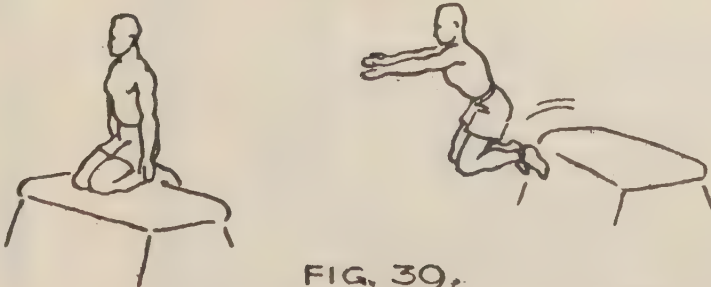


FIG. 39.

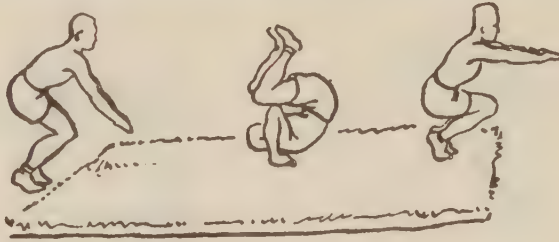


FIG. 40.

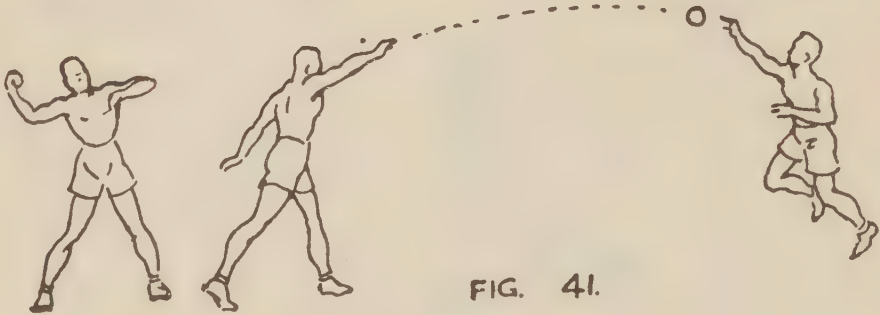


FIG. 41.



FIG. 42.

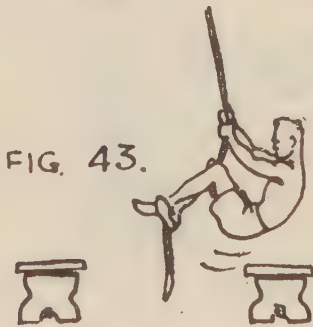


FIG. 43.

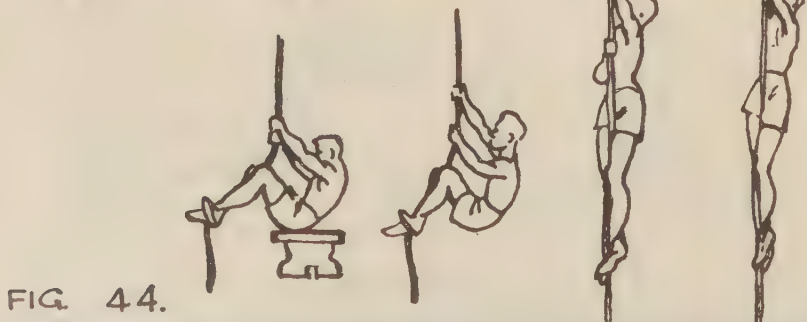


FIG. 44.



*(b) Vaulting*

- (i) (Side standing, one leg backward.) Oblique back vault, landing on both feet with side of body towards apparatus (beam, benches or improvised apparatus, waist-height). (Fig 38.)
- (ii) Knee-spring (horse, benches or improvised apparatus, crosswise). (Fig 39.)

*(c) Groundwork*

- (i) Forward roll (mat). (Fig 40.)
- (ii) Two or more consecutive forward rolls (mat).

*(d) Throwing*

- (i) (In pairs.) Throwing underhand or overhand to partner from standing position, left and right hand, and catching with one or both hands. (Fig 41.)
- (ii) Throwing overhand from standing position, left and right hand, at target on wall or floor. (Fig 42.)

NOTE.—Improvised ball, stone or dummy grenade, will be necessary for the above throwing practices.

- (e) *Climbing*.—(High sitting.) Position for climbing—(i) grip of feet, (ii) grip of feet and knees, (iii) grip of feet, knees and hands. To test grip, swing in climbing position from bench to bench placed about 4 ft on either side of rope. (Fig 43.) Later, climbing several paces using arms and legs. (Fig 44.)

*(f) Balancing*

- (i) (Balance standing.) Walking forward and backward. Later, walking sideways (apparatus at about knee-height). (Fig 45.)
- (ii) (Balance standing.) Walking forward and stepping over objects placed at intervals across the apparatus (apparatus at about knee-height). (Fig 46.)

NOTE.—For the balance exercises on apparatus use the beam flat side uppermost, B of E benches rib side uppermost, or improvised apparatus. In all balance exercises the arms and shoulders should be relaxed and move freely in any direction, as required, to maintain balance.

*(g) Individual fieldcraft movements*

- (i) Freezing. (Fig 47.)
- (ii) Technique and practice of "going to ground" and standing up slowly (carrying stick to represent rifle). (Fig 48.)

**NOTE.**—*Going to ground. Starting position.*

Standing (later, walking and running), stick (later rifle) carried obliquely across and close to the body by left (right) hand at the point of balance.

*Detail of movements. Going down.*

Take a pace forward with the left (right) foot. Bend downward and place the right (left) hand one pace in front of and slightly to the right (left) of this foot, allowing the stick or rifle butt to swing under the right (left) armpit. Lower the chest to the ground in advance of the forward hand, breaking the fall along the forearm of the hand holding the stick or rifle. At the same time, move the left (right) leg sideways. Both heels must be kept on the ground and care must be taken not to let the stick or rifle butt hit the ground. By transferring the free hand to the small of the butt and advancing the other arm as far as possible, the body is in position for a leopard crawl or ready to fire from a lying position.

*Getting up.*

Place the right (left) hand on the ground under the chest and press upward, at the same time bringing the left (right) leg forward with knee bent under the chest. Then move straight forward as in a sprint start.

*(h) Sprinting*

- (i) The crouch start. (Fig 49.)
- (ii) George's 100 up, including several short spells of acceleration. (Fig 50.)

2. *Relay race.*—Choose one of the following with which to end this part of each lesson :—

- (a) Arch and tunnel relay. (Fig 51.)
- (b) Leap frog relay. (Fig 52.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Position of attention.



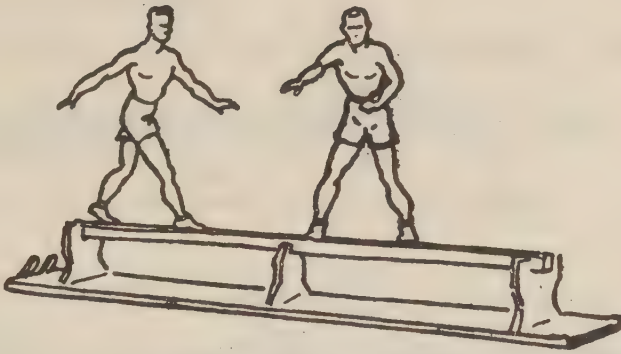


FIG. 45.

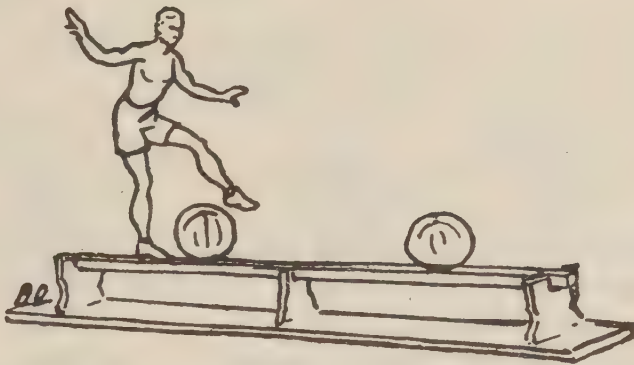


FIG 46

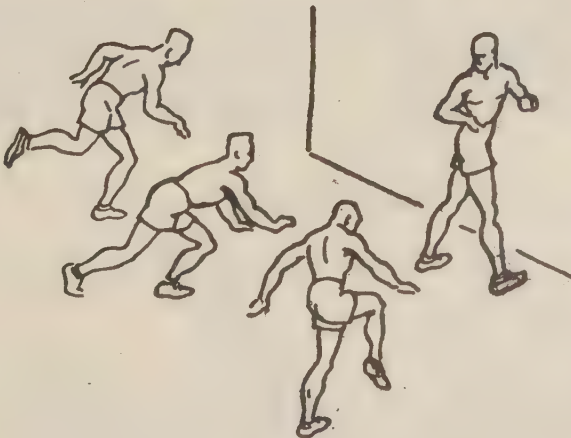


FIG 47

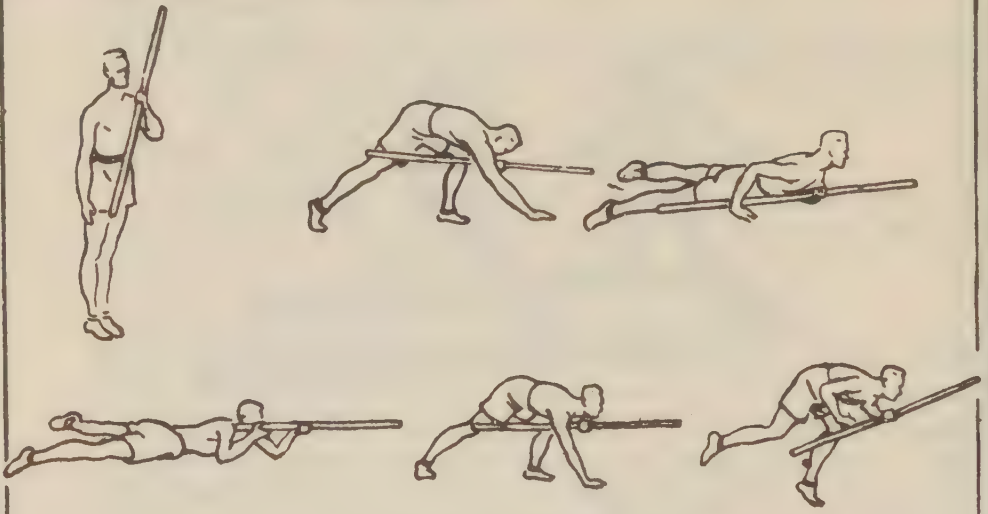


FIG. 48.



FIG 49

FIG. 50

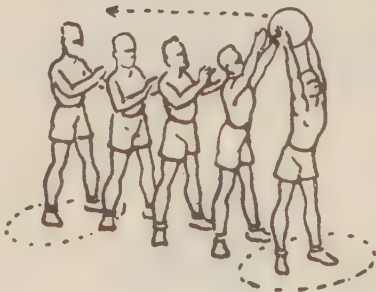


FIG. 51



FIG. 52.



## EXAMPLE OF TYPICAL LESSON MADE FROM TABLE I FOR RECRUITS UP TO 35 YEARS OF AGE

*Duration.*—40 minutes.

*Class.*—30 men at the end of their second week of primary training.

*Place.*—Gymnasium, fully equipped with fixed and portable apparatus.

*Dress.*—P.T. kit and shoes, stripped to waist.

### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Racing round the course.

2. *Arm and shoulder.*—(Astride, one hand on hip.) One arm circling backward. (Fig 1.)

3. *Trunk.*—(Astride.) Trunk bending from side to side. (Fig 2.)

*Quick reaction activity.*—First man with feet off the floor.

4. *Leg.*—Skip jumping to crouch with finger support after every fourth count. (Fig 3.)

5. *Arm and shoulder.*—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1), followed by arm swinging forward-sideways (2). (Fig 4.)

6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands and trunk unrolling. (Fig 5.)

*Quick reaction activity.*—Places change.

7. *Leg.*—Astride jumping with arm swinging sideways. (Fig 6.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

### PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Poison (groups of four or five men). (Fig 8.)

2. *Trunk.*—

(a) *Lateral.*—(Side support, hip on floor, upper leg slightly backward, one hand on hip.) Hip raising high. (Fig 11.)

(b) *Abdominal.*—(Back lying, knees bent, feet on floor, arms straight and close to body, palms on floor.) Head and shoulder raising. (Fig 14.)

**Quick reaction activity.—Colours.**

- (c) *Dorsal*.—(Prone lying, hands on hips.) Trunk bending backward. (Fig 17.)

**3. Pulling.**—Basic technique of pulling position on rope. (Fig 21.)

*Quick reaction activity*.—Place rope on ground, jump over it six times, then put rope away and run back to places. See who is first man back.

4. *Abdominal*.—(Hanging, over grasp.) One knee raising high, left and right (wall-bars). (Fig 32.)

After performing the exercise twice with each knee, the men run and change places with the men on the opposite wall-bars and the exercise is then repeated twice more with each knee.

**PART III.—ENDURANCE. (6 minutes)**

1. *Walking* (3 minutes).—Basic technique of walking with special attention to foot action, poise of body and co-ordination of leg and arm action. (Fig 33.)

and

2. *Running* (3 minutes).—Basic technique of running with special attention to relaxation and correct arm, leg and foot action. (Fig 34.)

**PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)**

**1. Group activities.—**

- (a) *Jumping*.—Running forward high jump (jumping stands and rope, 2 ft 6 ins). (Fig 36.)
- (b) *Vaulting*.—Knee-spring (horse, crosswise 3 ft 6 ins high.) (Fig 39.)
- (c) *Climbing*.—Climbing three paces using arms and legs (vertical rope). (Fig 44.)
- (d) *Balancing*.—(Balance standing.) Walking forward and stepping over low obstacles placed at intervals on beam, flat side uppermost, and on benches, rib uppermost. Half the team use the beam and the other half the benches. (Fig 46.)

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race*.—Arch and tunnel relay. (Fig 51.)



## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Position of attention.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities or to have them in the same places in the lesson.

## TABLE 2

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

(a) One against three.

(b) Small groups.

2. *Arm and shoulder*.—(Astride.) Arm swinging forward—downward—sideways and circling backward. (Keep shoulders relaxed, hands loosely closed, and reach as high as possible in the circling movement.) (Fig 53.)

3. *Trunk*.—(Astride.) Trunk bending from side to side, one arm reaching downward, one arm underbending. (Keep body erect and arms as close to sides as possible.) (Fig 54.)

4. *Leg*.—Skip jumping alternating with astride jumping with arm swinging sideways. Later, both to a given number of counts. (Keep arms straight and fingers stretched when swinging arms sideways.) (Fig 55.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1—2), arm swinging forward—sideways (3). (Keep arms in line with shoulders and hands loosely closed throughout the exercise.) (Fig 56.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to four counts, followed by trunk unrolling to four counts. (The unrolling should be smooth and continuous.) (Fig 57.)

7. *Leg*.—(Hands on hips.) Hopping with leg swinging sideways. (Keep the swinging leg straight and swing as high as possible.) (Fig 58.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

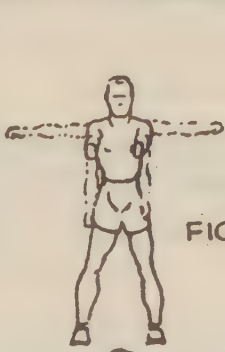


FIG. 53



FIG. 54.

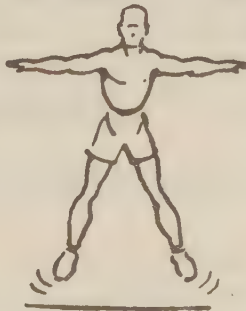
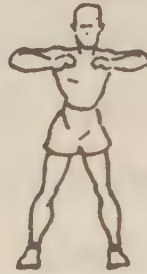


FIG. 55.



1-2



3

FIG. 56.



1-4.



5-8

FIG. 57.



FIG. 58.

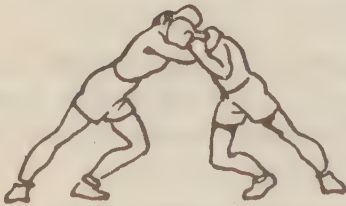


FIG. 59.

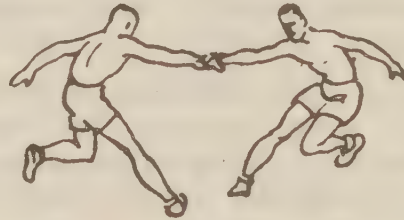


FIG. 60.



FIG. 61.



## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) Pushing wrestle. (Fig 59.)
- (b) Hopping tug-of-war. (Fig 60.)
- (c) Scrumping. (Fig 61.)

2. *Trunk*(a) *Lateral***Free-standing**

- (i) (Side support, hip on floor, upper leg slightly backward.) Hip raising high with one arm raising sideways-upward. (Keep lower leg in line with body and make as high an "arch" as possible. Keep arm straight and fingers stretched during arm raising.) (Fig 62.)

or

- (ii) (In pairs, astride, side by side, facing opposite directions, inner feet crossed, elbows linked.) Tug-of-war. (Fig 63.)

or

**Medicine ball**

- (iii) (In pairs, astride, back to back, two or three yards apart.) Trunk and head turning throwing ball backward to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 64.)

(b) *Abdominal***Free-standing**

- (i) (Back lying, arms straight and close to body, palms on floor.) Knee raising high with head and shoulder raising. (Try to touch forehead with knees and keep arms straight throughout the exercise.) (Fig 65.)

or

- (ii) One knee raising high and pressing towards chest, without assistance of hands, left and right. (Keep body as erect as possible.) (Fig 66.)

or

**Medicine ball**

- (iii) (In pairs, facing, foot forward, ball held behind head.) Throwing forward to partner ("soccer throw in"). (Fig 67.)



FIG. 62.

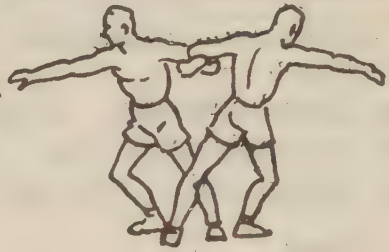


FIG. 63.

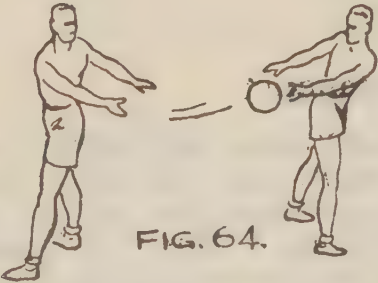


FIG. 64.



FIG. 65.



FIG. 66

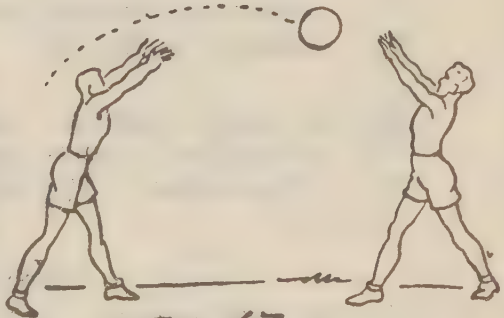


FIG. 67.

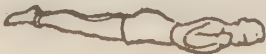


FIG. 68

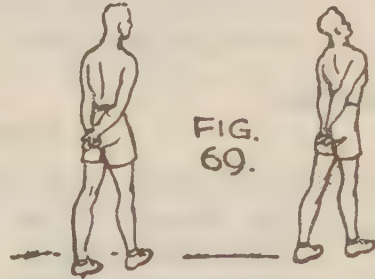


FIG. 69.

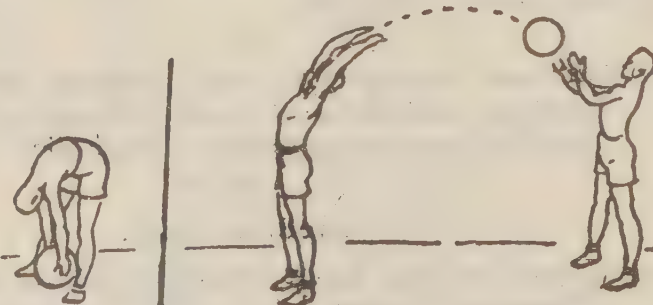


FIG 70.



*(c) Dorsal***Free-standing**

- (i) (Prone lying, upward bend.) Trunk bending backward. (Bend as high as possible in back.) (Fig 68.)

or

- (ii) (One foot forward, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Bend as high as possible in back.) (Fig 69.)

or

**Medicine ball**

- (iii) (In pairs, astride, facing same direction.) Relaxed trunk bending downward, followed by trunk stretching upward throwing ball backward overhead to partner. (Keep arms straight and reach as high as possible when throwing ball backward.) (Fig 70.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Technique and practice of pulling, rope attached to derrick, or one team acting as resistance. (Fig 71.)

or

- (ii) (In pairs, back to back.) Pushing backward (Fig 72), and pulling forward, using two sticks. (Fig 73.)

or

*(b) Lifting and carrying*

- (i) Technique and practice of lifting from floor, carrying and lowering various shaped objects, 50-60 lb in weight. At this stage, lifting, passing and carrying relay races may be introduced, care being taken to insist on good technique. (Figs 74 and 75.)

or

- (ii) Fore and aft method of lifting, carrying and lowering an injured man. (Fig 76.)

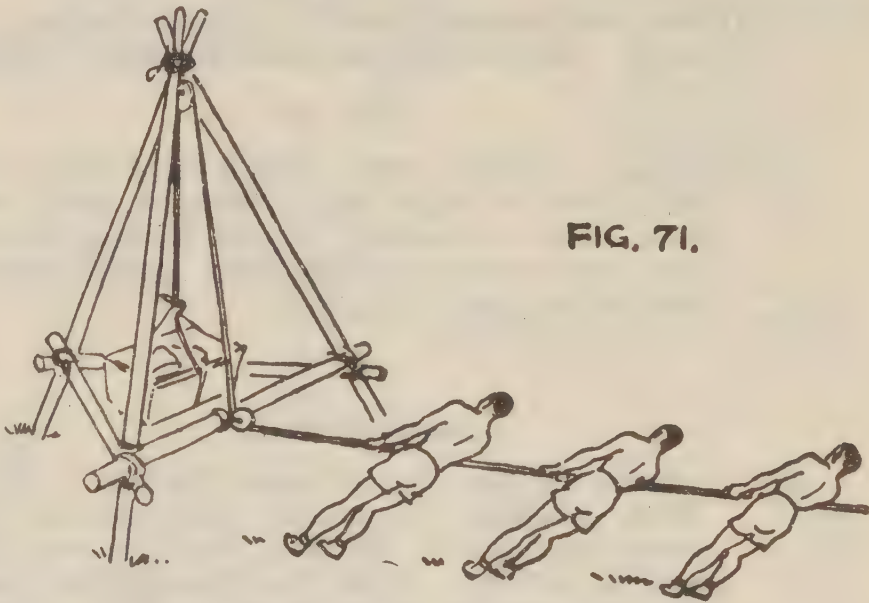


FIG. 71.

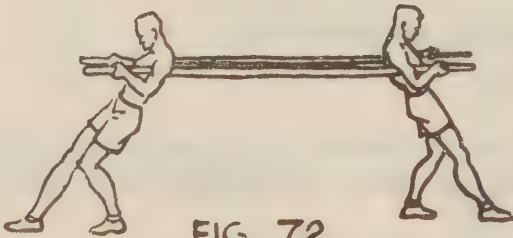


FIG. 72.



FIG. 73.



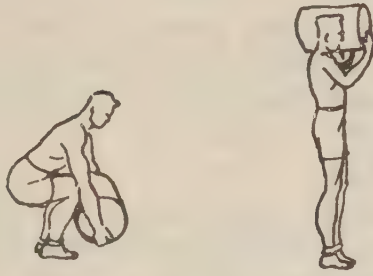


FIG. 74.



FIG. 75.

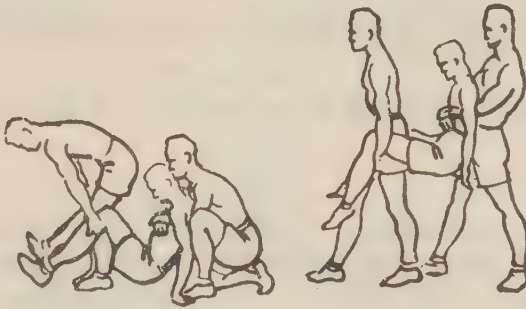


FIG. 76.

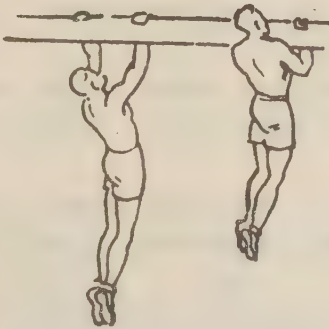


FIG. 77.

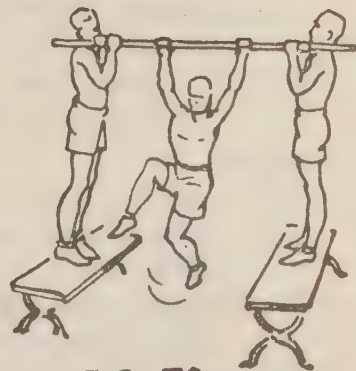


FIG. 78.

#### 4. *Heaving and abdominal*

(a) *Heaving*.—(Hanging, under grasp.) Arm bending to bring chest as near as possible to apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 77.)

or

(b) *Abdominal*.—(Hanging, over grasp.) Cycling (wall-bars, beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Make large circular "cycling" movements with the legs.) (Fig 78.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of 5 miles per hour (approximately 73 yds per half-minute). (Fig 33.)

and

2. *Running (3 minutes)*.—Running at a speed of  $8\frac{1}{2}$  miles per hour (approximately 125 yds per half-minute). (Fig 34.)

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

#### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 3 ft to 5 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward.) (Fig 79.)
- (ii) Running stride jump over marked space, ditch or trench. (Fig 80.)
- (iii) High jumps off both feet over series of low obstacles (benches or improvised apparatus.) (Fig 81.)

#### (b) *Vaulting*

- (i) Running vault with foot assisting (horse, beam or improvised apparatus crosswise, chest-height). (Fig 82.)
- (ii) Running through vault (horse, benches or improvised apparatus, crosswise). (Fig 83.)

#### (c) *Groundwork*

- (i) Backward roll (mat). (Fig 84.)
- (ii) Forward roll followed by backward roll (mat).

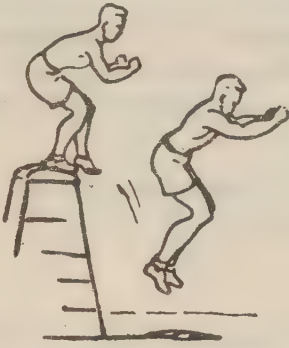


FIG 79

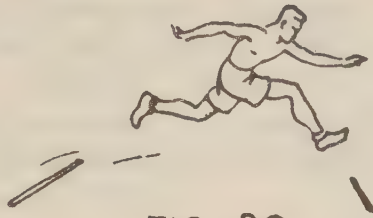


FIG 80.



FIG. 81.

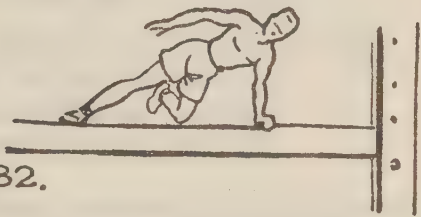
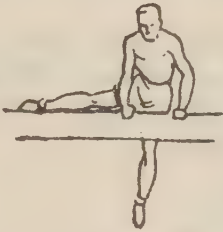


FIG. 82.

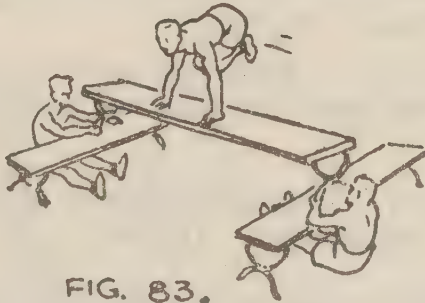


FIG. 83.



FIG. 84.



*(d) Throwing*

- (i) (In pairs.) Throwing underhand or overhand to partner from standing position, left and right hand, and catching with one or both hands (competitive for speed). (Fig 85.)
- (ii) Lobbing ball, stone or dummy grenade, left and right hand, on to floor target. (Fig 86.)

*(e) Climbing*

- (i) Climbing vertical rope, using arms and legs. (Fig 44.)
- (ii) Climbing inclined rope, lying underneath with feet on rope, using arms and legs. (Fig 87.)

*(f) Balancing*

- (i) (Balance standing.) Walking forward and backward. Later, walking sideways (apparatus at about hip-height). (Fig 45.)
- (ii) Walking up sloping bench, either flat side or rib uppermost, on to beam fixed at about hip-height, walking along beam, flat side uppermost, and down another sloping bench. (Fig 88.)

*(g) Individual fieldcraft movements*

- (i) Blind Man. (Fig 89.)
- (ii) Practice of "going to ground" and standing up quickly (carrying stick to represent rifle). (Fig 48.)

*(h) Sprinting*

Running on spot alternating with short spells of running with rapid steps. (Fig 90.)

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

- (a) Over and under stick relay. (Fig 91.)
- (b) Back support relay. (Fig 92.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching with special attention to foot action, poise of body and co-ordination of arm and leg action. (Fig 93.)

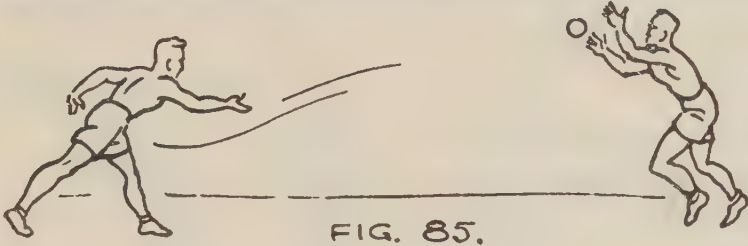


FIG. 85.

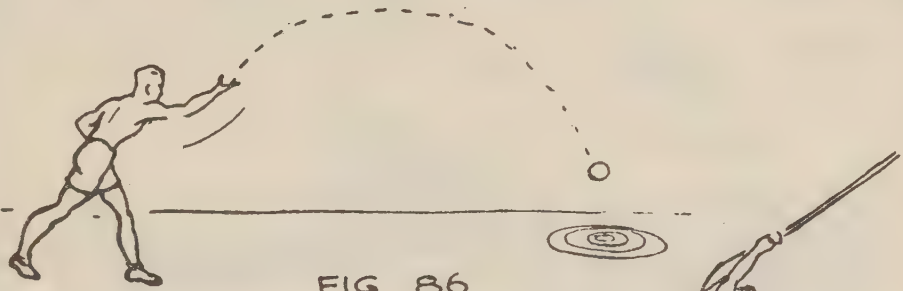


FIG. 86.

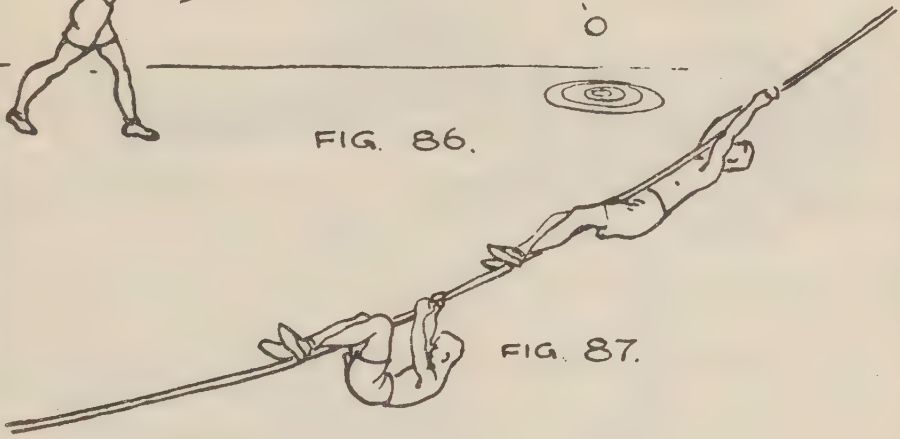


FIG. 87.

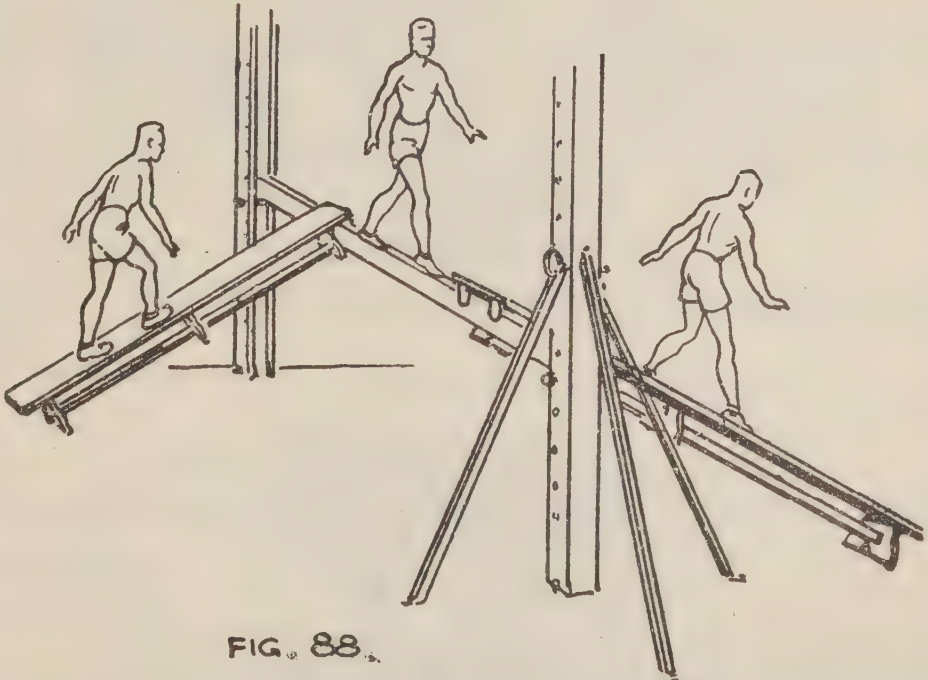


FIG. 88.

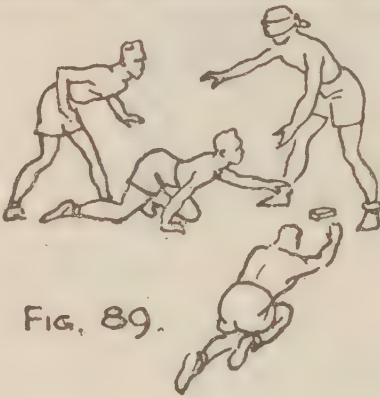


FIG. 89.

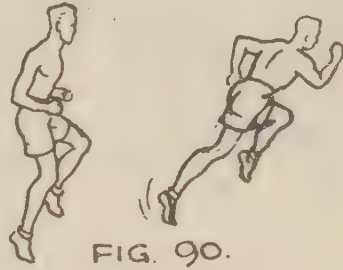


FIG. 90.

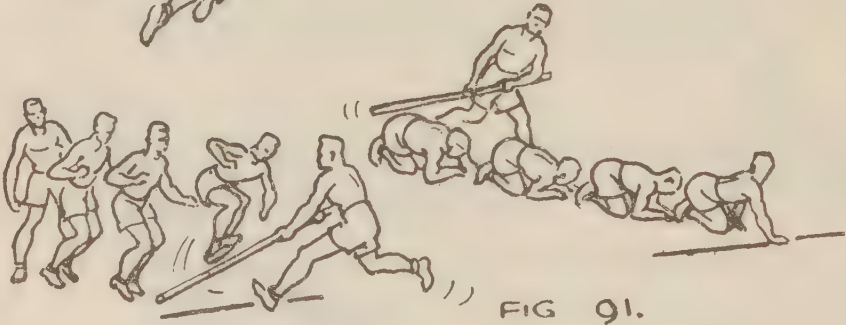


FIG. 91.

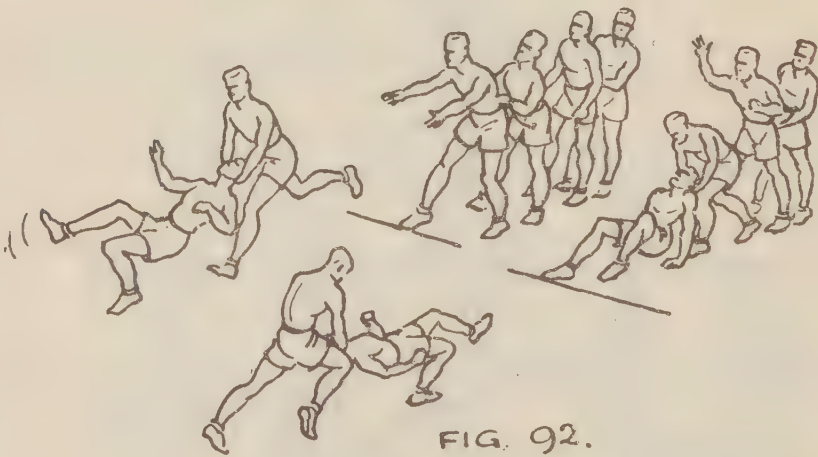


FIG. 92.



FIG. 93.



## EXAMPLE OF TYPICAL LESSON MADE FROM TABLE 2 FOR RECRUITS UP TO 35 YEARS OF AGE

*Duration.*—40 minutes.

*Class.*—30 men in their fourth week of primary training.

*Place.*—Outdoors, or indoors in room with concrete or similar floor, improvised and portable apparatus, consisting of vertical rope, medicine balls, sticks, barrack and B. of E. benches, and small improvised balls for throwing.

*Dress.*—P.T. kit and shoes, stripped to waist.

### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—One against three.

2. *Arm and shoulder.*—(Astride.) Arm swinging forward—downward—sideways and circling backward. (Fig 53.)

3. *Trunk.*—(Astride.) Trunk bending from side to side, one arm reaching downward, one arm underbending. (Fig 54.)

4. *Leg.*—Skip jumping alternating with astride jumping with arm swinging sideways, both to four counts. (Fig 55.)

*Quick reaction activity.*—Heading imaginary football and saving goals in named direction.

5. *Arm and shoulder.*—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1-2), arm swinging forward-sideways (3). (Fig 56.)

6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to four counts, followed by trunk unrolling to four counts. (Fig 57.)

*Quick reaction activity.*—Chase him.

7. *Leg.*—(Hands on hips.) Hopping with leg swinging sideways. (Fig 58.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

### PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Pushing wrestle. (Fig 59.)

2. *Trunk.*—

(a) *Lateral*

(In pairs, astride, back to back, two or three yards apart.) Trunk and head turning throwing medicine ball backward to partner. (Fig 64.)

*Quick reaction activity.*—See which pair can first complete six consecutive throws.

(b) *Abdominal*

(In pairs, facing, foot forward, medicine ball held behind head.) Throwing forward to partner. (Fig 67.)

*Quick reaction activity.*—(In pairs.) Wrestling for ball.

(c) *Dorsal*

(In pairs, astride, facing same direction.) Relaxed trunk bending downward, followed by trunk stretching upward throwing medicine ball backward overhead to partner. (Fig 70.)

3. *Pulling and pushing.*—(In pairs, back to back.) Pulling forward and pushing backward, using two sticks. (Figs 73 and 72.)

*Quick reaction activity.*—(In pairs.) Skipping, using stick.

4. *Abdominal.*—(Hanging, over grasp.) Cycling (benches and stick, in threes.) (Fig 78.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes).*—Walking at a speed of 5 miles per hour.

2. *Running (3 minutes).*—Running at a speed of  $8\frac{1}{2}$  miles per hour.

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities.*—

(a) *Jumping.*—High jumps off both feet over four medicine balls placed several feet apart. (Fig 81.)

*Return activity.*—Forward roll (mat). (Fig 40.)

(b) *Vaulting.*—Running through vault (three benches forming a horse.) (Fig 83.)

*Return activity.*—Running stride jump over marked space (Fig 80.)

(c) *Throwing.*—(In pairs.) Lobbing ball, left and right hand, on to floor target. (Fig 86.)

(d) *Balancing and climbing*

(i) (Balance standing.) Walking sideways along B. of E. bench, rib uppermost (B. of E. bench resting on a barrack bench at each end and firmly held). (One half of the section.)

(ii) Climbing vertical rope, using arms and legs. (Fig 44.)  
(One half of the section.)

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race.*—Over and under stick relay. (Fig 91.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching. (Fig 93.)

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE 3

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

- (a) Horses and jockeys.
- (b) Carry man in threes race.

2. *Arm and shoulder*.—(Astride, one arm upward, one arm backward, hands loosely closed, palms facing inwards.) Arm changing with forward swing. (As one arm swings downward, the other arm swings upward. Keep hands loosely closed.) (Fig 94.)

3. *Trunk*.—(Astride.) Trunk bending sideways (1–3 to each side.) (Keep body erect and on the rebound from each sideways bend movement return almost to the upright position.) (Fig 95.)

4. *Leg*.—Two astride jumps followed by one skip jump.

5. *Arm and shoulder*.—(Astride, arms crossed, left wrist over right wrist, hands loosely closed.) Arm swinging forward-sideways. (Keep hands loosely closed throughout the exercise and palms facing downward in the sideways position.) (Fig 96.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor, alternately both hands between the feet and one hand outside each foot to four counts, followed by trunk unrolling to four counts. (Fig 97.)

7. *Leg*.—Astride jumping with arm swinging sideways alternating with astride jumping with arm swinging sideways-upward. Later, both to a given number of counts. (Keep arms straight and fingers stretched.) (Fig 98.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.





FIG. 94.

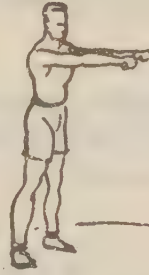
1-3.  
FIG. 95.

FIG. 96.

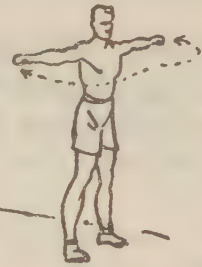


FIG. 97.

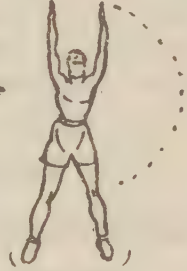


FIG. 98.

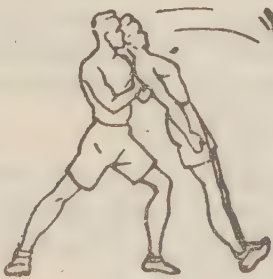


FIG. 99.

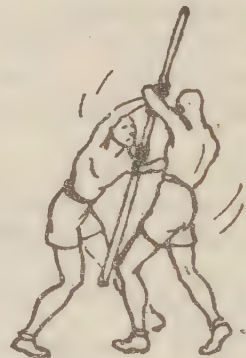
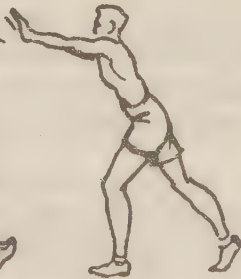


FIG. 100.



FIG. 101.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

(a) Dead man (in threes or circle). (Fig 99.)

(b) Stick wrestle. (Fig 100.)

(c) Bull in the ring. (Fig 101.)

2. *Trunk*

(a) *Lateral*

**Free-standing**

(i) (Side support, hip on floor, upper leg slightly backward, one hand on hip.) Hip raising (1), leg raising high (2), leg lowering (3), hip lowering (4). (Keep lower leg in line with body and raise hip as high as possible.) (Fig 102.)

or

(ii) Obstinate mule. (Fig 103.)

or

**Medicine ball**

(iii) (In pairs, sitting astride, back to back, 2 or 3 yds apart.) Trunk and head turning throwing ball backward to partner. (Keep arms straight during throwing movement.) (Fig 104.)

(b) *Abdominal*

**Free-standing**

(i) (Back lying, knees bent, feet on floor, arms upward, palms facing inwards, hands loosely closed.) Trunk swinging forward-downward with leg stretching. (Slide heels along floor during leg stretching and also during the return movement and reach as far forward as possible.) (Fig 105.)

or

(ii) (Hands on hips.) One leg swinging forward as high as possible, left and right. (Keep swinging leg straight.) (Fig 106.)

or

**Medicine ball**

(iii) (In pairs, facing, back lying, knees bent, feet on floor arms upward, ball resting on floor and held with both hands.) Trunk swinging forward-downward with leg stretching, throwing ball forward to partner. (Make the trunk swinging forward-downward a continuous movement.) (Fig 107.)



1+3  
FIG. 102.

2.



FIG. 103.

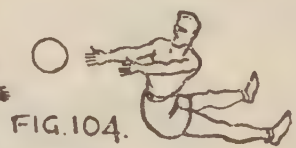
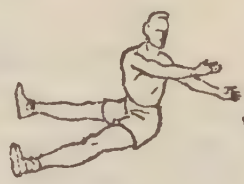


FIG. 104.



FIG. 105.

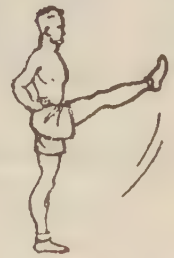


FIG. 106.



FIG. 107



FIG. 108.



FIG. 109.



FIG. 110



*(c) Dorsal***Free-standing**

- (i) (Prone lying, arms sideways, palms on floor.) Trunk bending backward. (Keep palms facing floor and bend as high as possible in back.) (Fig 108 )

or

- (ii) (Astride, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed, relaxed trunk downward.) Trunk stretching forward with arm stretching downward. (Fig 109.)

or

**Medicine ball**

- (iii) (In pairs, sitting astride, back to back.) Relaxed trunk bending downward, followed by trunk stretching upward passing ball backward over head with straight arms to partner. (Reach as high as possible and bend slightly backward when transferring ball to partner.) (Fig 110.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Pulling practice on rope, one team acting as resistance.

or

- (ii) (In pairs, facing, one leg forward with bent knee, arms forward, hands grasping horizontal stick with over grasp.) Technique of pushing. (Fig 111.)

or

*(b) Lifting and carrying*

- (i) Lifting from floor and carrying objects 60-80 lb in weight, and of various shapes, along or over benches or other improvised obstacles. (Fig 112.)

or

- (ii) Fireman's lift, subject to be lifted from floor progressively from standing, kneeling and lying positions, (Fig 113.)

**4 Heaving and abdominal**

- (a) Heaving.*—(Hanging, alternate grasp.) Arm bending to bring chest as near as possible to apparatus (beam, tubular scaffolding, bench and stick, in threes, or other improvised apparatus). (Fig 114.)

or

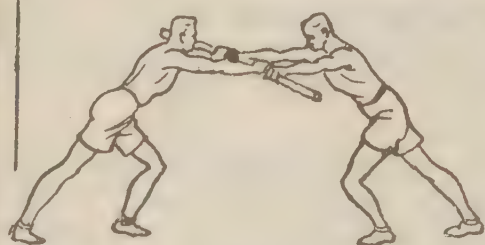


FIG. 111.



FIG. 112

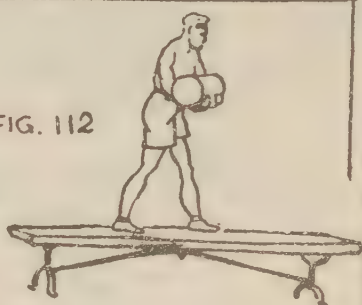


FIG. 113.

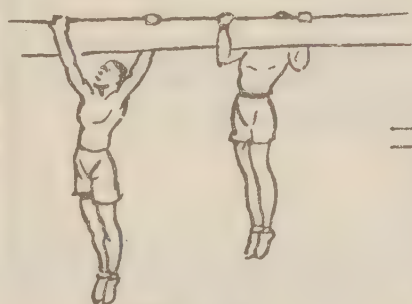


FIG. 114.



FIG. 115

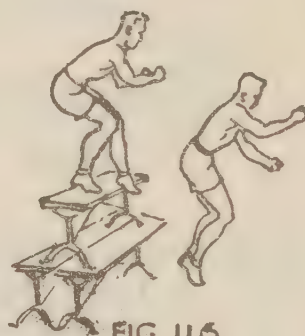


FIG. 116.



FIG. 117.

11 FT. 12 FT. 13 FT.

- (b) *Abdominal*.—(Hanging, over grasp.) Knee raising high to touch apparatus with insteps or shins (beam, tubular scaffolding, benches and stick in threes or other improvised apparatus). (Fig 115.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of  $5\frac{1}{2}$  miles per hour (approximately 80 yds per half-minute).

*and*

2. *Running (3 minutes)*.—Running at a speed of 9 miles per hour (132 yds per half-minute).

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

#### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 4 ft to 6 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward.) (Fig 116.)
- (ii) Running long jump over marked space. (The distance of the first line from the take-off line should be 11 ft with additional lines every 6 ins up to 15 ft 6 ins.) (Fig 117.)
- (iii) Running window jump (jumping stands and ropes, or improvised apparatus). (Fig 118.)

#### (b) *Vaulting*

- (i) Running face vault with bent knees (horse, beam, benches or improvised apparatus, waist-height). (Fig 119.)
- (ii) Running cat spring with astride vault off. Later, with through vault off (horse, or improvised apparatus, lengthways). (Fig 120.)

#### (c) *Groundwork*

- (i) Dive forward roll (mat). (Fig 121.)
- (ii) Hand-standing with assistance, in threes or in pairs. (Figs 122 and 123.)



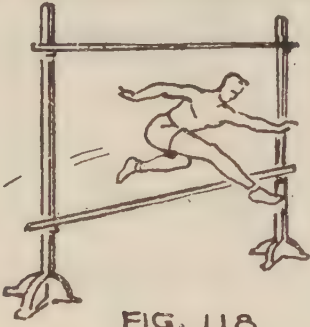


FIG. 118.

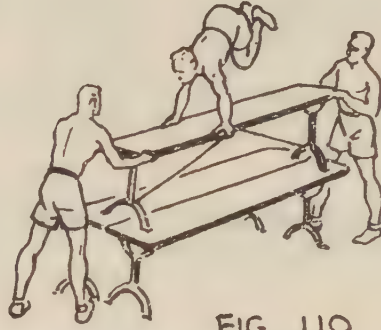


FIG. 119.

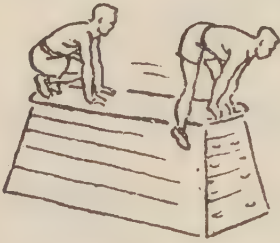


FIG. 120.

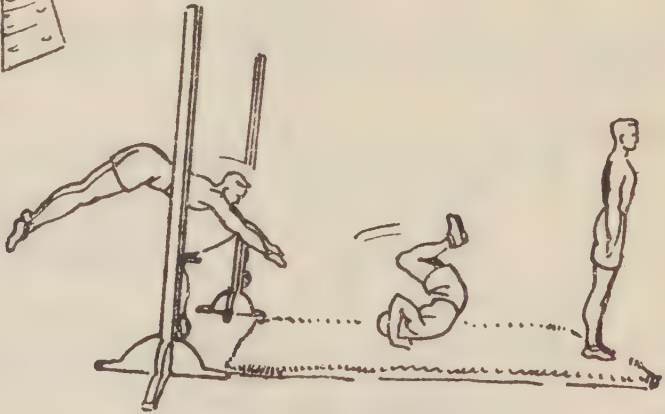


FIG. 121.

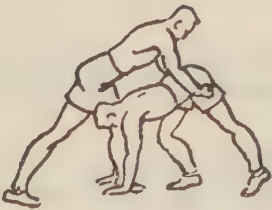


FIG. 122.



FIG. 123.

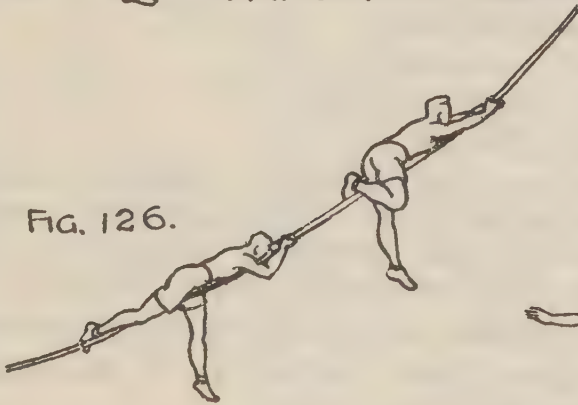
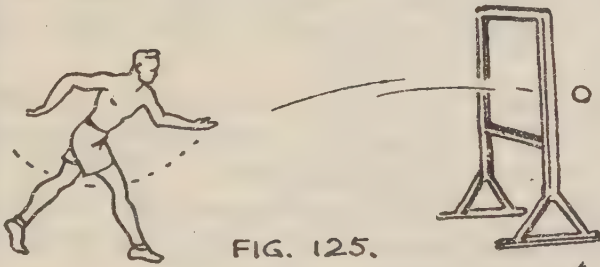
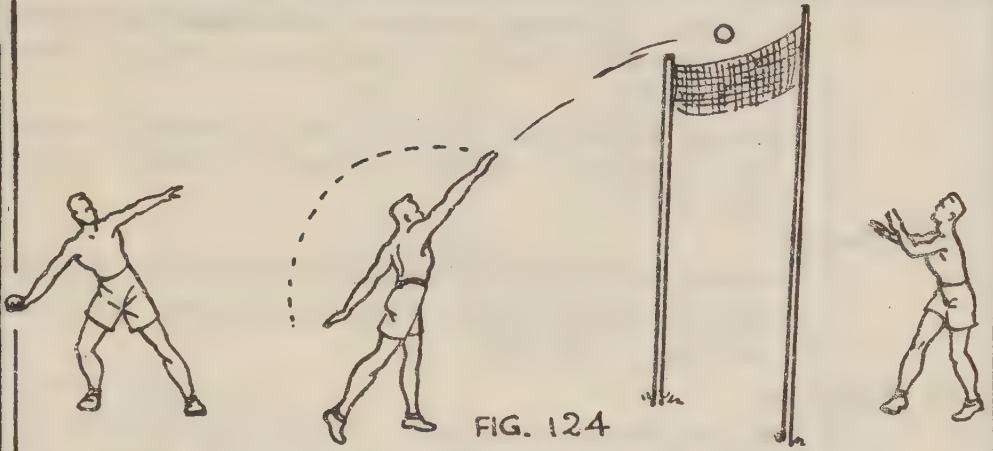
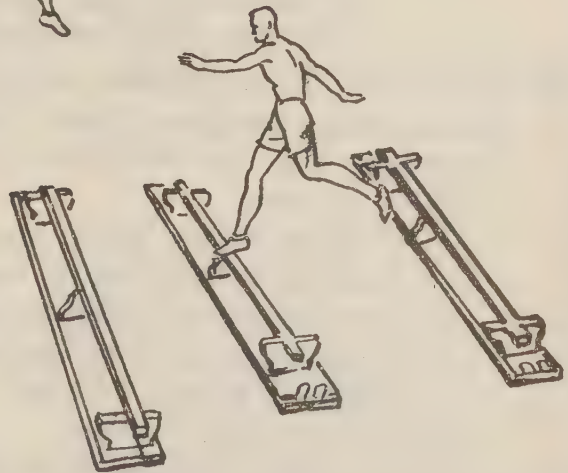


FIG. 128.



*(d) Throwing*

- (i) (In pairs.) Lobbing overhand from standing position, left and right hand, for height over rope or beam. (Fig 124.)
- (ii) Lobbing underhand, ball, stone or dummy grenade, left and right hand, through window target. (Fig 125.)

*(e) Climbing*

- (i) Climbing vertical rope, using arms and legs. (Fig 44.)
- (ii) Climbing inclined rope, lying on top and using arms and leg. (Fig 126.)

*(f) Balancing*

- (i) Stepping stones—hopping or jumping from foot to foot from small circle to small circle drawn on the floor at irregular distances from each other. (Fig 127.)
- (ii) (Balance standing.) Stepping forward on to ribs of several parallel benches or improvised apparatus placed at irregular distances apart. (Fig 128.)
- (iii) (Balance standing.) Walking forward and backward. Later, walking sideways (beam, flat side uppermost at about shoulder-height). (Fig 129.)

*(g) Individual fieldcraft movements*

- (i) The leopard crawl. (Fig 130.)
- (ii) The roll. (Fig 131.)
- (iii) Running on spot, followed by "going to ground" quickly on signal, followed by standing up quickly on command and continue running on spot. (Carrying stick to represent rifle.) (Fig 132.)

*(h) Sprinting.*—Sprint running alternating with slow running.*(i) Surmounting obstacles.*—Basic technique of surmounting obstacles with the minimum of effort.*Indoor training*

- (i) Vaulting (beam, horse, logs or benches).
  - (ii) Balance walking (beam, logs or benches).
  - (iii) Crawling (beam, benches, logs or sticks).
  - (iv) Jumping down from heights, or over obstacles (shelf, beam, horse or benches).
  - (v) Scaling (shelf or beam).
  - (vi) Swinging (climbing rope, horse, beam or shelf).
  - (vii) Walking up or down slopes (sloping logs or benches).
- An example of an indoor obstacle course is given in Fig 135.



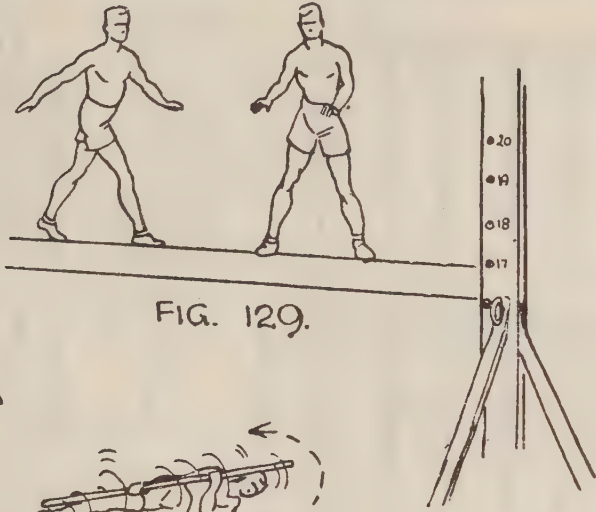


FIG. 129.



FIG. 130.

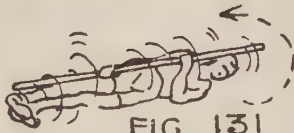


FIG. 131.

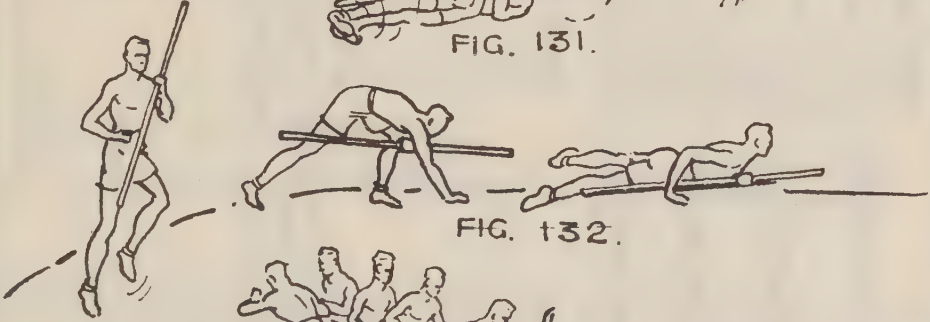


FIG. 132.



FIG. 133.

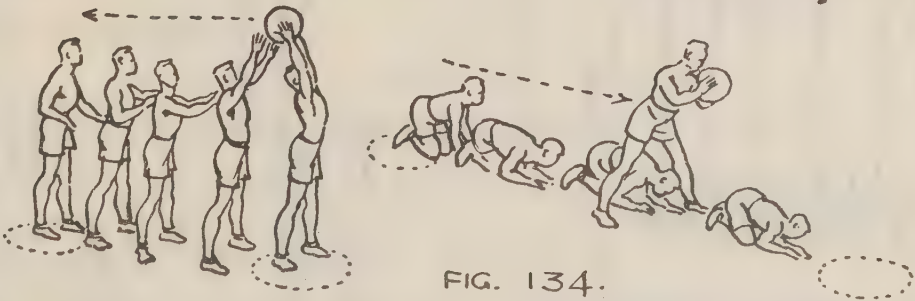


FIG. 134.

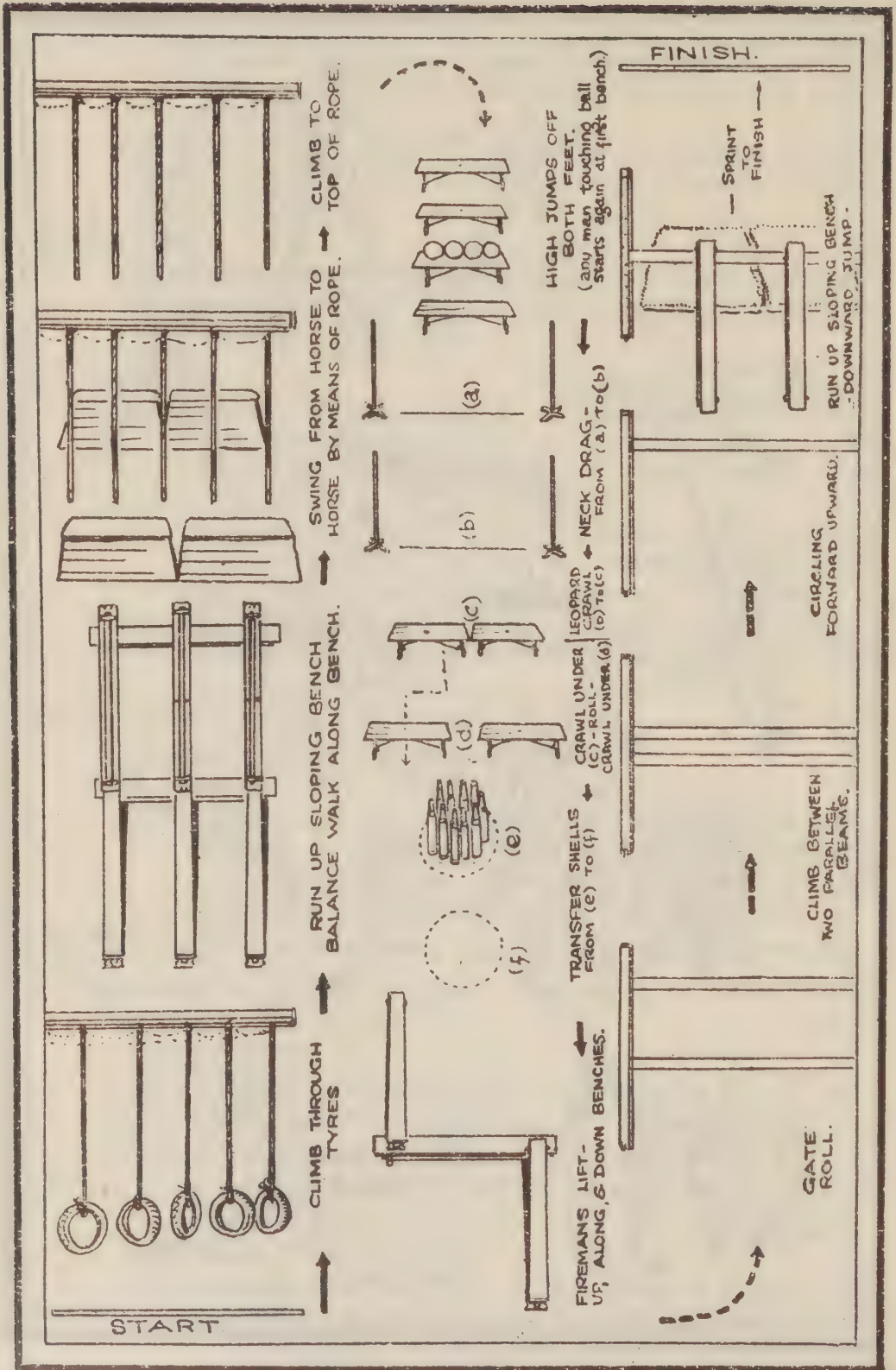


FIG. 135 INDOOR - OBSTACLE-COURSE.

*Outdoor training*

- (i) Rolling over gate, fence or hedge.
- (ii) Scaling walls 6 ft to 10 ft high.
- (iii) Walking along planks or logs over ditches.
- (iv) Jumping stream, ditch or trench.
- (v) Jumping down from heights.
- (vi) Crawling under wire.
- (vii) Swinging from obstacle to obstacle by means of a rope.

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

- (a) Sprint relay. (Fig 133.)
- (b) Arch and straddle relay. (Fig 134.)

PART V.—CARRIAGE. (2 minutes)

- 1. Re-form class in three ranks.
- 2. Marching with special attention to correct technique.

**EXAMPLE OF TYPICAL LESSON MADE FROM TABLE 3  
FOR RECRUITS UP TO 35 YEARS OF AGE**

*Duration*.—40 minutes.

*Class*.—30 men in their sixth week of primary training.

*Place*.—Gymnasium or hall, equipped with apparatus consisting of horse, barrack and B. of E. benches, jumping stands and two ropes, mat, sticks, medicine balls, and vertical climbing ropes.

*Dress*.—PT kit and shoes, stripped to waist.

PART I.—MOBILITY. (5 minutes)

- 1. *Game-form running activity*.—Carry man in threes race.
- 2. *Arm and shoulder*.—(Astride, one arm upward, one arm backward, hands loosely closed, palms facing inwards.) Arm changing with forward swing. (Fig 94.)
- 3. *Trunk*.—(Astride.) Trunk bending sideways (1–3 to each side.) (Fig 95.)
- 4. *Leg*.—Two astride jumps followed by one skip jump.



5. *Arm and shoulder*.—(Astride, arms crossed, left wrist over right wrist, hands loosely closed.) Arm swinging forward-sideways. (Fig 96.)

*Quick reaction activity*.—(In pairs.) Hopping charges.

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips alternately both hands between the feet and one hand outside each foot to four counts, followed by trunk unrolling to four counts. (Fig 97.)

7. *Leg*.—Astride jumping with arm swinging sideways alternating with astride jumping with arm swinging sideways-upward, both to four counts. (Fig 98.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Bull in the ring. (Fig 101.)

2. *Trunk*.—

(a) *Lateral*.—(Side support, hip on floor, upper leg slightly backward, one hand on hip.) Hip raising (1), leg raising high (2), leg lowering (3), hip lowering (4). (Fig 102.)

*Quick reaction activity*.—Running on spot, including a short spell acceleration.

(b) *Abdominal*.—(Back lying, knees bent, feet on floor, arms upward, palms facing inwards, hands loosely closed.) Trunk swinging forward-downward with leg stretching. (Fig 105.)

*Quick reaction activity*.—Wrestle with partner and try to lift him off the floor.

(c) *Dorsal*.—(Prone lying, arms sideways, palms on floor.) Trunk bending backward. (Fig 108.)

3. *Lifting and carrying*.—Fireman's lift, subject kneeling. (Fig 113.)

4. *Heaving*.—(Hanging, alternate grasp.) Arm bending to bring chest as near as possible to apparatus (benches and stick, in threes.) (Fig 114.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of  $5\frac{1}{2}$  miles per hour.  
and

2. *Running (3 minutes)*.—Running at a speed of 9 miles per hour.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

### 1. *Group activities*—

(a) *Jumping*.—Running window jump (jumping stands and ropes). (Fig 118.)

*Return activity*.—Stepping stones. (Fig 127.)

(b) *Vaulting*.—Running cat spring (horse, lengthways). (Fig 120.)

*Return activity*.—Standing long jump over marked space. (Fig 37.)

### (c) *Individual fieldcraft movements and climbing*

(i) Leopard crawl, working in pairs, coaching and correcting each other (Fig 130.) (One half of the section.)

(ii) Climbing vertical rope, using arms and legs. (Fig 44.) (One half of the section.)

(d) *Balancing*.—(Balance standing.) Stepping forward on to ribs of four parallel benches placed at irregular intervals apart. (Fig 128.)

*Return activity*.—Backward roll. (Fig 84.)

NOTE.—Men change round from one activity to the next every three minutes.

### 2. *Relay race*.—Arch and straddle relay. (Fig 134.)

## PART V.—CARRIAGE. (2 minutes)

### 1. Re-form class in three ranks.

### 2. Marching.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE 4

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

i. *Game-form running activity*.—Choose one of the following each lesson :—

(a) Back support race.

(b) Racing round the course followed by one against three.

2. *Arm and shoulder*.—(Astride.) Arm swinging alternately forward—backward and forward—upward—backward. (Keep body erect and hands loosely closed with palms facing inwards.) (Fig 136.)

3. *Trunk*.—(Astride, across bend, hands loosely closed.) Trunk and head turning from side to side with alternate arm swinging sideways. (Keep arms in line with shoulders, hands loosely closed and feet flat on floor.) (Fig 137.)

4. *Leg*.—Astride jumping with arm swinging sideways and forward alternately. (Keep arms straight and fingers stretched.) (Fig 138.)

5. *Arm and shoulder*.—(Astride.) Arm swinging forward—sideways. (Keep hands loosely closed and palms facing inwards during the forward swing and facing forward during the sideways swing.) (Fig 139.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor alternately forward and backward between feet to four counts, trunk unrolling to four counts. (Reach as far forward as possible in front of feet and as far backward as possible between feet.) (Fig 140.)

7. *Leg*.—Skip jumping with leg parting after every third or fourth count. (Fig 141.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) VC Race. (Fig 142.)
- (b) Arm lock wrestle. (Fig 143.)
- (c) Ankle grasp pushing. (Fig 144.)

### 2. *Trunk*

- (a) *Lateral*

#### Free-standing

- (i) (Back lying, arms sideways, palms on floor.) One leg reaching across to touch floor with foot near opposite hand, left and right. (Keep shoulders flat on floor and legs straight.) (Fig 145.)

or



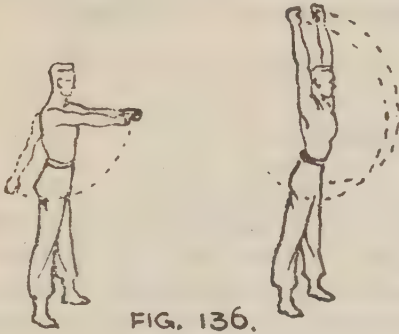


FIG. 136.

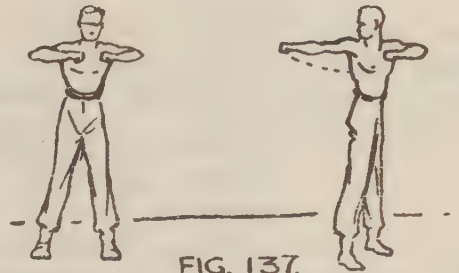


FIG. 137.

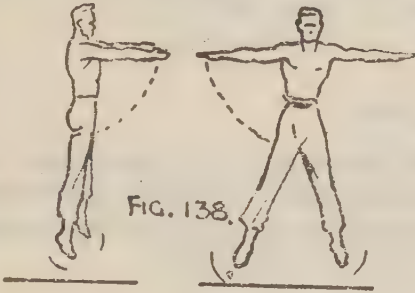


FIG. 138.



FIG. 139.



FIG. 140.

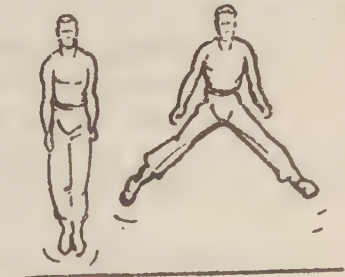


FIG. 141.



FIG. 142.



FIG. 143.



FIG. 144.

- (ii) (Astride, arms sideways.) Relaxed trunk bending downward with turning to touch foot with opposite hand. (Try to touch knee with forehead.) (Fig 146.)

or

### Medicine ball

- (iii) (In pairs, sitting astride, facing, two or three yards apart, ball held with both hands in front of one shoulder, trunk turned.) Pushing ball forward to partner from left and right shoulders alternately. (The push should be made with the hand which is at the back of the ball.) (Fig 147.)

or

### Log

- (iv) (Astride, log held under one arm.) Trunk bending to opposite side with one arm reaching downward. (Keep log high up under arm and both legs straight throughout the exercise.) (Fig 148.)

## (b) Abdominal

### Free-standing

- (i) (Sitting, knees bent, feet on floor, arms downward, palms on floor.) Trunk lowering backward slowly with leg stretching to back lying position. (Stretch legs at same time as trunk is lowered backward.) (Fig 149.)

or

- (ii) Dead man in threes. (Fig 99.)

or

### Medicine ball

- (iii) (In pairs, back lying, head to head, arms upward grasping partner's arms, ball held between feet.) Leg raising high and transferring ball to partner who grips it with one foot on top and one foot underneath. (Keep legs straight and raise them as high as possible before transferring ball.) (Fig 150.)

or

### Log

- (iv) (Sitting, alternate sides, facing opposite directions, log held in crook of arms.) Trunk bending downward (lowering backward) and lowering backward (bending downward). (Fig 151.)

*(c) Dorsal***Free-standing**

- (i) (Prone lying, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Bend as high as possible in back.) (Fig 152.)

*or*

- (ii) (One foot forward, across bend, hands loosely closed.) Trunk bending backward. (Keep elbows in line with shoulders and bend as high as possible in back.) (Fig 153.)

*or***Medicine ball**

- (iii) (In pairs, astride, facing same direction, ball held in front of chest with arms bent.) Relaxed trunk bending downward with arms straight, trunk stretching upward with knee and arm bending bringing ball to chest, followed by knee and arm stretching, throwing ball backward overhead to partner. (Reach up and bend as high as possible in back when throwing ball overhead.) (Fig 154.)

*or***Log**

- (iv) (Astride, log held above head, arms straight.) Passing log backward slowly. (Fig 155.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Hauling on rope, one team acting as resistance, or rope attached to log or derrick. (Fig 156.)

*or*

- (ii) Team pulling and pushing using log. (Figs 157 and 158.)

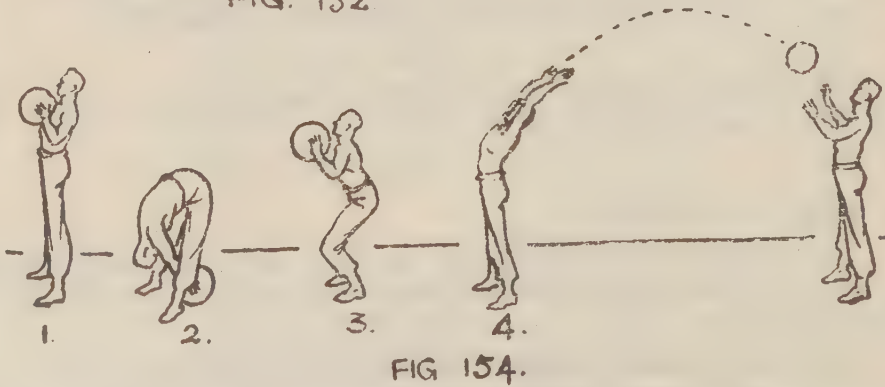
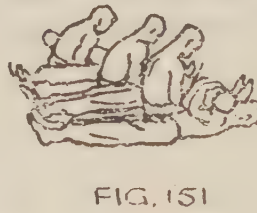
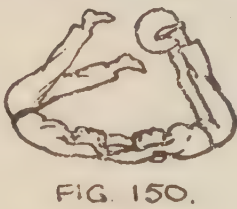
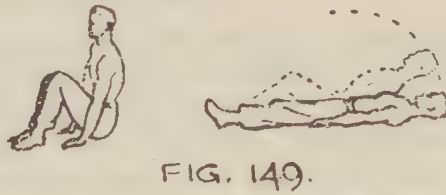
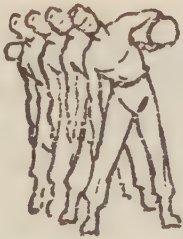
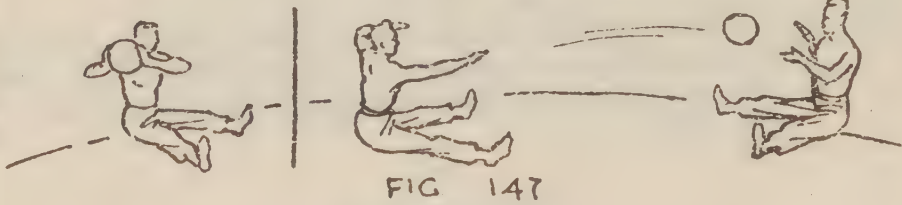
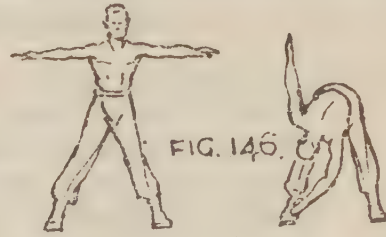
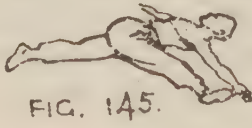
*or**(b) Lifting and carrying*

- (i) Lifting and carrying articles of unit equipment (e.g., ammunition boxes, mortars, etc.) (Fig 159.)

*or*

- (ii) Pick-a-back method of carrying an injured man on and over benches or improvised apparatus. (Fig 160.)





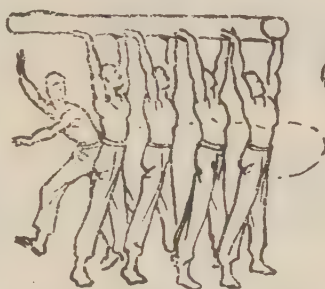


FIG. 155.



FIG. 156.

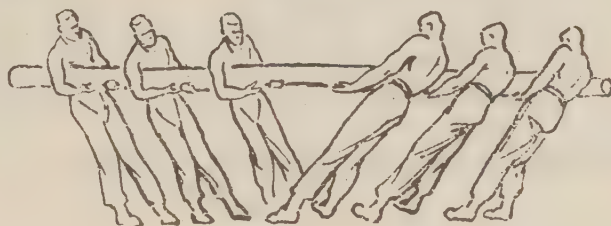


FIG. 157.



FIG. 158.



FIG. 159.

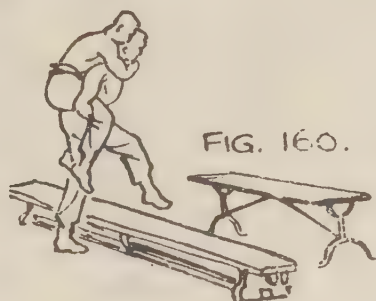


FIG. 160.

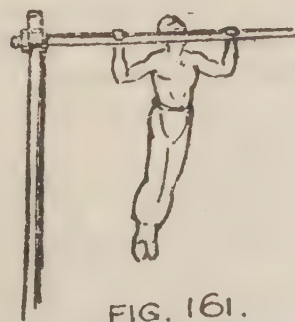


FIG. 161.

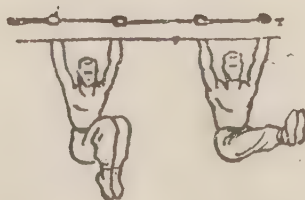


FIG. 162.

#### 4. *Heaving and Abdominal*

(a) *Heaving*.—(Hanging, over grasp.) Arm bending to bring chest as near as possible to apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 161.)

or

(b) *Abdominal*.—(Hanging, over grasp.) Knee raising, leg stretching forward and lowering (wall-bars, beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 162.)

NOTE.—When either Group 5 or 6 (*rifle exercises and shell exercises*) is included in the lesson, either Group 3 or 4 (*pulling, pushing, lifting and carrying, or heaving and abdominal*) will be omitted. In the early stages, it may even be necessary to omit both of these groups.

Approximately 5 minutes should be devoted to either rifle or shell exercises.

#### 5. *Rifle exercises*

*Standard I. Elementary*.—Quick reaction activities involving the use of the standing aim in any direction indicated, using clock-face method, should be given during the following exercises :—

(a) *Grip (Alternate grip release)*.—(Astride, arms downward, alternate grasp.) Releasing grip with each hand alternately. (The hand must be turned outward, *i.e.*, palm to front, clear of the rifle. The position is held longer as strength is developed.) (Fig 163.)

(b) *Dexterity (Rifle change)*.—(Astride, arms downward, alternate grasp.) Releasing grip and swinging rifle to reverse position. (The position of the hands on the rifle is changed with each swing. During the swing the rifle must pass from side to side through the vertical position in front of the body.) (Fig 164.)

(c) *Shoulder (Rifle pointing sideways)*.—(Astride, arms downward, alternate grasp.) Releasing left (right) hand grip and trunk turning with right (left) hand pointing rifle to left, and left (right) arm swinging sideways—backward and opposite heel raising. (The position is held longer as strength is developed.) (Fig 165.)

(d) *Wrist (Under swing and check)*.—(Astride, arms forward, elbows bent to a right angle, under grasp.) Releasing left (right) hand grip and swinging rifle downward—sideways to right (left) and checking when rifle is parallel with ground with left (right) hand. (The rifle should be swung at first with a pendulum swing from side to side, later checking and holding the rifle in the sideways position.) (Fig 166.)





FIG. 163.

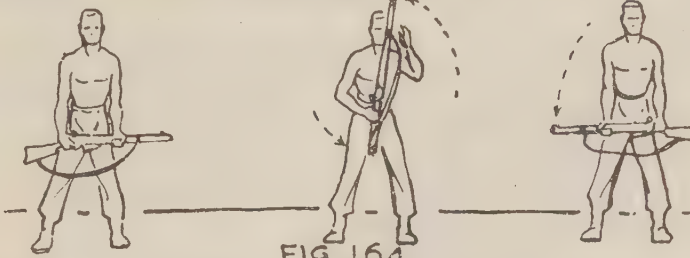


FIG. 164

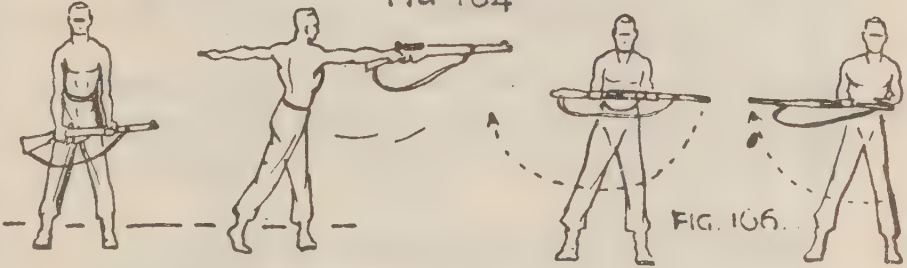


FIG. 166.

FIG. 165.

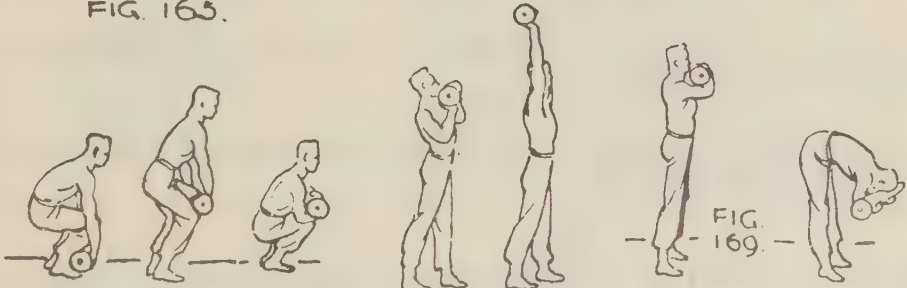


FIG. 169.

FIG. 167.

FIG. 168.



FIG. 171.

FIG. 170.

## 6. *Shell exercises.*—Series 1

- (a) Method of lifting a round. (Fig 167.)
  - (b) (One foot slightly forward, over grasp, arms bent, shell held in front of chest.) Arm stretching upward. (Maintain a straight back and keep shell close to face during the arm stretching movement.) (Fig 168.)
  - (c) (Astride, shell held in crook of arms in front of chest.) Trunk bending downward with increasing range. (Keep back and legs straight, and allow hips to sway backward.) (Fig 169.)
  - (d) (Short astride, toes pointing forward, shell held in crook of arms in front of chest.) Knee full bending forward. (Keep back straight and heels on floor.) (Fig 170.)
- Quick reaction games and activities should be included during the above shell exercises. Choose one or two each lesson from the following :—
- (a) Race round shell or shells, running, hopping, or quick walking.
  - (b) Alter position of shell to face in named direction.
  - (c) Jump over shell a given number of times.
  - (d) Shell passing relay, variation A. (Fig 171.)

## PART III.—ENDURANCE. (6 minutes)

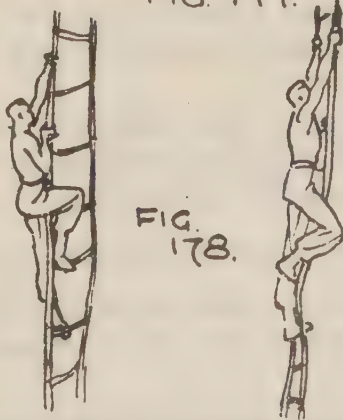
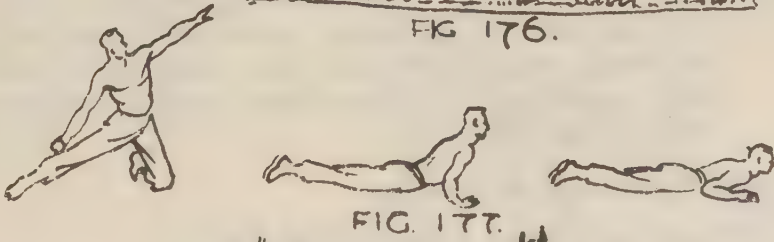
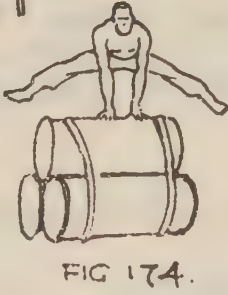
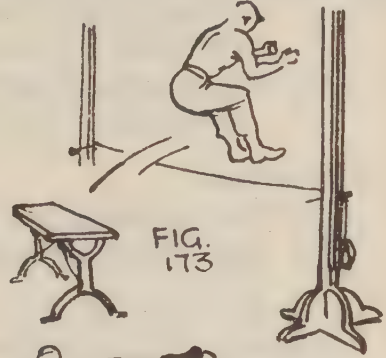
1. *Walking (3 minutes).*—Walking at a speed of 6 miles per hour (88 yds per half-minute).
- and*
2. *Running (3 minutes).*—Running at a speed of 9 miles per hour (132 yds per half-minute).

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities.*—Choose three or four of the following activities each lesson :—

### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 5 ft to 7 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward.) (Fig 172.)
- (ii) Running forward high jump with high take-off (bench and jumping stands, two logs, one low and one high, or other improvised apparatus). (Fig 173.)





(b) *Vaulting*

- (i) Running astride vault (horse, or improvised apparatus, crosswise). (Fig 174.)
- (ii) Running horizontal astride vault (horse or improvised apparatus, lengthways). (Fig 175.)

(c) *Groundwork*

- (i) Two consecutive backward rolls (mat). (Fig 176.)
- (ii) Hand-standing with or without assistance. (Fig 123.)

(d) *Throwing*.—(In pairs.) Lobbing overhand from kneeling position, left and right hand, for distance and accuracy, followed immediately by falling to lying position. (Fig 177.)(e) *Climbing*

- (i) Climbing a vertical rope, twice, to a height of 12 ft to 15 ft, using arms and legs.
- (ii) Climbing rope ladder. (Fig 178.)

(f) *Balancing*

- (i) Cat walk along log (log resting on supports at about chest-height and firmly fixed at each end). (Fig 179.)
- (ii) (Balance standing.) Walking up sloping bench, flat side uppermost at about shoulder-height, walking sideways along beam and down sloping bench, flat side uppermost. Stick to be carried to represent rifle. (Fig 180.)

(g) *Individual fieldcraft movements*

- (i) Hands and knees crawl. (Fig 181.)
- (ii) Hands and knees crawl changing to leopard crawl. (Fig 182.)
- (iii) Running "going to ground" slowly on signal, followed by standing up quickly on command and continue running. (Fig 183.)

(h) *Sprinting*.—Sprint race over a distance of 50 yds.(i) *Surmounting obstacles*.—As in Table 3, either indoors or outdoors, linking together any two or three of the obstacles.

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

- (a) Exchange relay. (Fig 184.)
- (b) Racing tunnel ball. (Fig 185.)

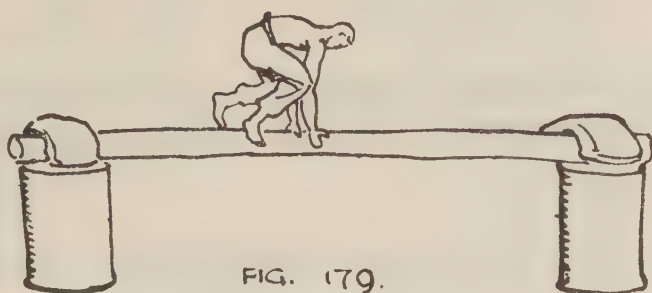


FIG. 179.

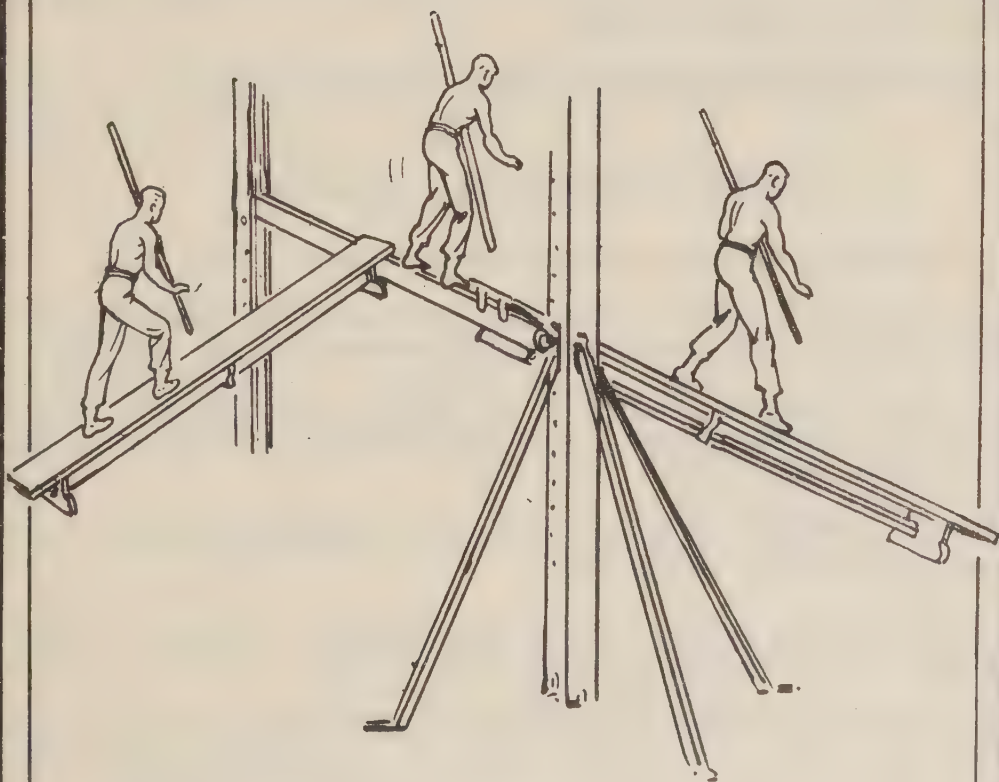


FIG. 180.

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Marching in squad formation.

EXAMPLE OF TYPICAL LESSON MADE FROM TABLE 4  
FOR RECRUITS UP TO 35 YEARS OF AGE

*Duration.*—40 minutes.

*Class.*—30 men in their second week of corps training.

*Place.*—Outdoors, improvised apparatus consisting of tug-of-war rope, climbing ropes, logs, heaving apparatus made from tubular scaffolding, horses made from turf, sandbags or oil drums, stones for throwing, and medicine balls.

*Dress.*—Denim trousers and shoes, stripped to waist.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Back support race.
2. *Arm and shoulder.*—(Astride.) Arm swinging alternately forward-backward and forward-upward-backward. (Fig 136.)
3. *Trunk.*—(Astride, across bend, hands loosely closed.) Trunk and head turning from side to side with alternate arm swinging sideways. (Fig 137.)
4. *Leg.*—Astride jumping with arm swinging sideways and forward alternately. (Fig 138.)
- Quick reaction activity.*—Form up quickly in groups of fours, followed by one against three.
5. *Arm and shoulder.*—(Astride.) Arm swinging forward-sideways. (Fig 139.)
6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch ground alternately forward and backward between feet to four counts, trunk unrolling to four counts. (Fig 140.)
7. *Leg.*—Skip jumping with leg parting after every third count. (Fig 141.)
8. *Breathing.*—(Astride, hands on hips.) Breathing.



FIG. 181



FIG. 182



FIG. 183



FIG. 184.



FIG. 185.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Arm lock wrestle. (Fig 143.)

2. *Trunk*.—

(a) *Lateral*.—(Astride, log held under one arm.) Trunk bending to opposite side with one arm reaching downward. (Fig 148.)

*Quick reaction activity*.—Place log on ground, jump over it from side to side six times and run to form groups of three men, clear of log ready for abdominal exercise.

(b) *Abdominal*.—Dead man in threes. (Fig 99.)

*Quick reaction activity*.—Run twice round own log, finishing in starting position for next exercise.

(c) *Dorsal*.—(Astride, log held above head, arms straight.) Passing log backward slowly. (Fig 155.)

3. *Pulling*.—Hauling on rope, one team acting as resistance. (Fig 156.)

4. *Heaving*.—(Hanging, over grasp.) Arm bending to bring chest as near as possible to apparatus (tubular scaffolding). (Fig 161.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of 6 miles per hour.  
and

2. *Running (3 minutes)*.—Running at a speed of 9 miles per hour.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—

(a) *Vaulting*.—Running horizontal astride vault (horse made from turf, sandbags or oil drums). (Fig 175.)

*Return activity*.—Running astride vault over horse made from three large oil drums. (Fig 174.)

(b) *Throwing and climbing*

(i) (In pairs.) Lobbing overhand from kneeling position for distance and accuracy, followed immediately by falling to lying position. (Fig 177.) (One half of the section.)

(ii) Climbing vertical rope, twice, to a height of 12 ft, using arms and legs. (One half of the section.)

- (c) *Balancing*.—Cat walk along log (log resting on large oil drums and firmly fixed at each end). (Fig 179.) Men waiting for their turn practise head wrestle in pairs on another log supported on small oil drums and firmly fixed at each end.
- (d) *Sprinting and fieldcraft movement*.—Sprint race over a distance of 50 yds followed by practice of hands and knees crawl. (Fig 181.)

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race*.—Racing tunnel ball. (Fig 185.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching in squad formation.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE 5

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

- (a) Pick-a-back race.

- (b) Walking in circle ; on signal, rapid walking to pass man in front, changing to running dodge and mark.

2. *Arm and shoulder*.—(Astride.) Arm swinging forward-upward with increasing range to reach arms upward position on third count, followed by arm swinging forward-upward three times. (Keep body erect and hands loosely closed, with palms facing inwards.) (Fig 186.)

3. *Trunk*.—(Astride, across bend, butcher's grip.) Trunk and head turning from side to side with elbow swinging. (Keep body erect and feet flat on floor. Pull well round with the elbow of the side to which the trunk is being turned and turn the head as far as possible ; keep the arms level with top of chest.) (Fig 187.)



4. *Leg.*—Astride jumping with arm swinging sideways-upward, followed by two skip jumps when feet are together. (Keep arms straight and fingers stretched when swinging arms sideways-upward.) (Fig 188.)

5. *Arm and shoulder.*—(Astride, arms sideways, hands loosely closed.) Arm swinging forward-upward, forward-sideways. (Hands loosely closed throughout the exercise. Palms facing inwards when arms are above head and downward when arms are sideways.) (Fig 189.)

6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to three counts followed by trunk stretching upward with arm swinging sideways on fourth count. (Keep hands loosely closed and palms facing downward in the sideways position.) (Fig 190.)

7. *Leg.*—Skip jumping to crouch with finger support, alternating with astride jumping to crouch with finger support. Later, both after a given number of counts. (Fig 191.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Choose one of the following each lesson :—

- (a) Wrestle with partner and try to lift him off the floor. (Fig 192.)
- (b) Turn the turtle. (Fig 193.)
- (c) Indian wrestle. (Fig 194.)

### 2. *Trunk*

#### (a) *Lateral*

#### Free-standing

- (i) (Back lying, one leg raised to vertical position, arms sideways, palms on floor.) One leg lowering to touch floor near opposite hand, left and right. (Keep shoulders flat on floor and both legs straight.) (Fig 195.)

or

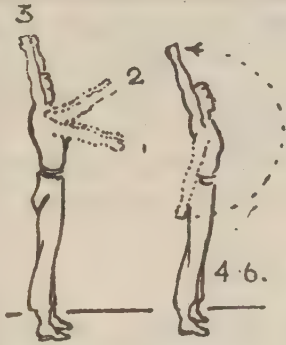


FIG 186.

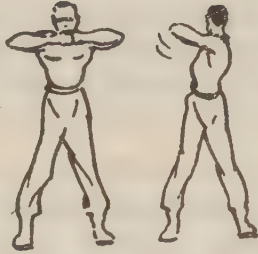


FIG 187

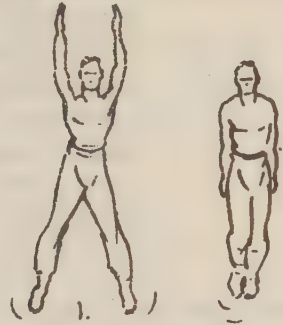


FIG 188. 2-3

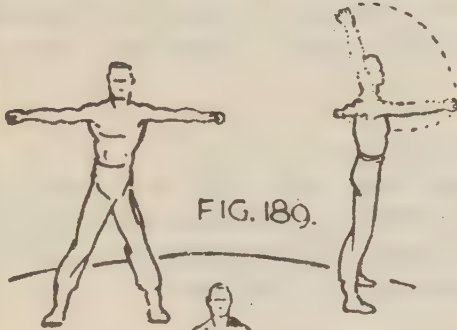


FIG. 189.

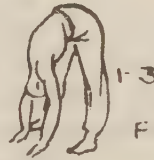


FIG. 190.



4

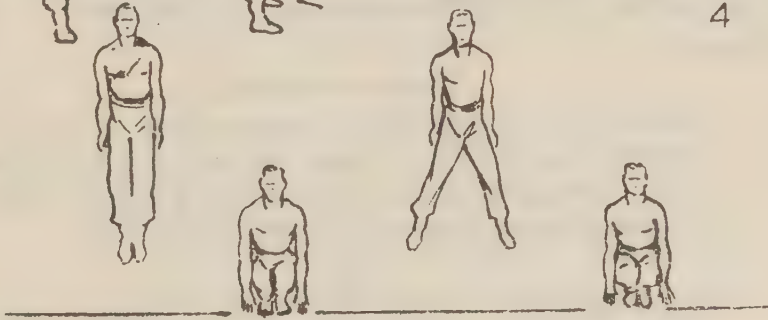


FIG. 191.

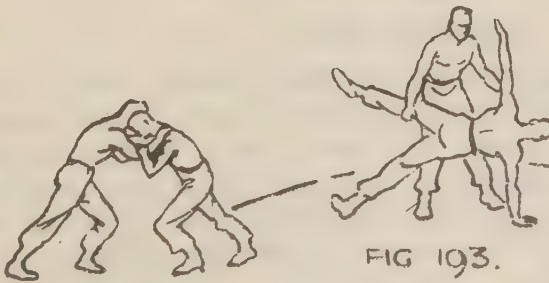


FIG. 192.



FIG 193.



FIG 194.

- (ii) (Astride.) Relaxed trunk bending downward with turning to grasp one ankle with both hands and trunk pressing downward with arm bending three times, changing to other side through the upright position. (Keep both legs straight and try to touch knee with forehead and bend arms outward during the trunk pressing downward movement.) (Fig 196.)

or

### Medicine ball

- (iii) (In pairs, astride, facing same direction, several yards apart.) Trunk and head turning, throwing ball backward over one shoulder to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 197.)

or

### Log

- (iv) (Astride, log held under one arm.) Trunk bending sideways towards log with opposite arm swinging sideways-upward. (Keep fingers stretched during arm swinging movement.) (Fig 198.)

## (b) Abdominal

### Free-standing

- (i) (Back lying, knees bent, feet on floor, arms sideways, palms on floor.) Knee raising (1), leg stretching to vertical position (2), bending (3), lowering (4). (Keep lower back on floor.) (Fig 199.)

or

- (ii) High kicking at opposite hand. (Keep kicking leg straight and hand in line with top of head.) (Fig 200.)

or

### Medicine ball

- (iii) (In pairs, sitting, facing, ball held above head with straight arms.) Leg raising high with trunk lowering backward until toes touch ball which is held on floor overhead, followed by trunk swinging forward-downward and throwing ball forward to partner as the body passes through the sitting, arms upward position. (Fig 201.)

or

### Log

- (iv) (Back lying, log held in front of chest.) One leg raising to vertical position, left and right, with arm stretching forward. Later, raising both legs with arm stretching forward. (Fig 202.)



*(c) Dorsal***Free-standing**

- (i) (Prone lying, upward bend.) Trunk bending backward with arm stretching sideways. (Keep palms of hands facing floor and bend as high as possible in back.) (Fig 203.)

*or*

- (ii) (One foot forward, arms sideways.) Trunk bending backward with arm turning upward. (Bend as high as possible in back and keep arms shoulder-height throughout the exercise.) (Fig 204.)

*or***Medicine ball**

- (iii) (In pairs, astride, back to back, about 1 yd apart, arms straight, ball held in front of body with both hands.) Passing ball backward alternately overhead and between legs to partner. (Keep arms and legs straight throughout the exercise and bend as high as possible in back when passing the ball overhead.) (Fig 205.)

*or***Log**

- (iv) (One foot forward, facing, alternate sides of log, one hand under grasp, one hand over grasp.) Log circling forward and backward. (Make large circular movements with log.) (Fig 206.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Tug-of-war using two, three or four ropes attached to iron ring. (Fig 207.)

*or*

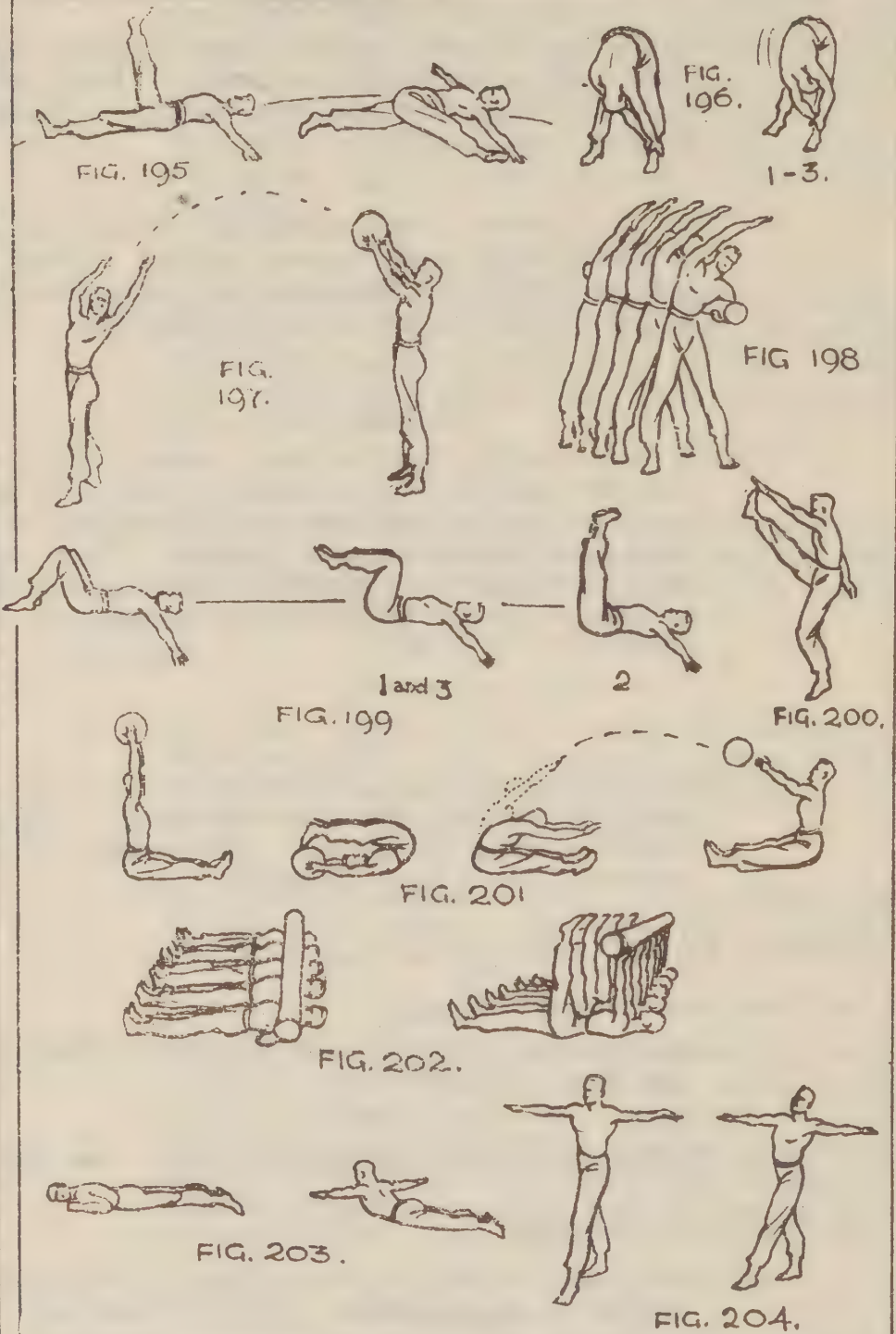
- (ii) Pushing on log versus pulling on rope. (Fig 208.)

*or**(b) Lifting and carrying*

- (i) Lifting and carrying in twos, threes or fours heavy articles of unit equipment. (Figs 209 and 210.)

*or*

- (ii) Fireman's lift from standing position, subject to be carried 50 yds in 30 seconds.



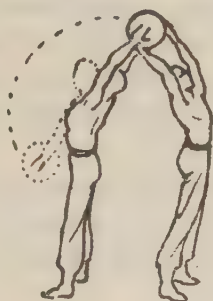


FIG. 205.



FIG. 206.

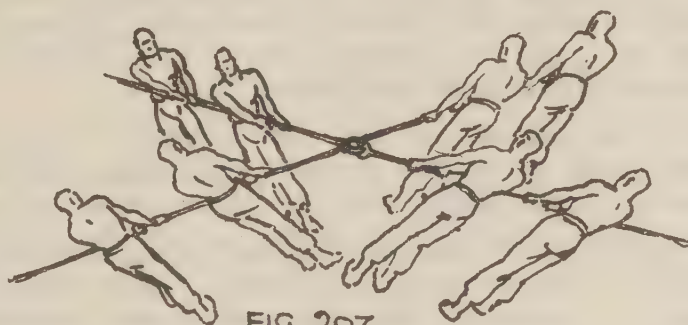
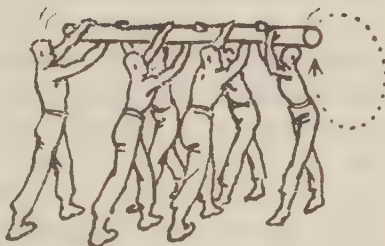


FIG. 207.

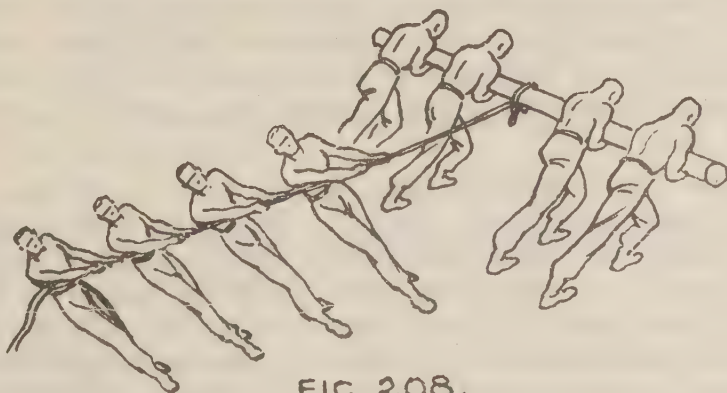


FIG. 208.



#### 4. *Heaving and abdominal*

- (a) *Heaving*.—(Hanging, over grasp.) Arm bending, with or without assistance, until back of head touches front side of apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 211.)

or

- (b) *Abdominal*.—(One foot forward, under heave grasp.) Circling forward-upward with assistance (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus, chest-height). (Fig 212.)

NOTE.—When either Group 5 or 6 (rifle exercises and shell exercises) is included in the lesson, either group 3 or 4 (pulling, pushing, lifting and carrying, or heaving and abdominal) will be omitted. In the early stages, it may even be necessary to omit both of these groups.

Approximately 5 minutes should be devoted to either rifle or shell exercises.

5. *Rifle exercises*.—Standard I. *Intermediate*.—Quick reaction activities involving the use of the kneeling aim in any direction should be given during the following exercises. A visual or sound signal should be used for this purpose. The clock-face method may also be used to indicate the target.

- (a) *Grip (Alternate muzzle and butt lowering)*.—(Astride, arms downward, alternate grasp.) Releasing left hand grip, lowering and raising muzzle, followed by releasing right hand grip, lowering and raising butt. (Fig 213.)

- (b) *Dexterity (Grip reversing)*.—(Astride, arms forward, alternate grasp.) Reversing grip with each hand alternately. (At first the exercise should be done once only with each hand and then the arms lowered to the ready position for a short rest. After this, the exercise should be repeated. Gradually, as strength is developed, the grip should be reversed several times before the rifle is lowered.) (Fig 214.)

- (c) *Shoulder (One-handed swing round head)*.—(Astride, arms downward, alternate grasp.) Releasing left hand grip swinging rifle round head with right hand. Repeat with left hand. (At first the rifle should be raised in front of body and face with both hands before the grip is released. Later, as strength is developed, the hand grip should be released as soon as the exercise is begun. The rifle must come to rest in both hands after each swing.) (Fig 215.)

- (d) *Wrist (Winding)*.—(Astride, arms forward, over grasp.) Twisting rifle forward and backward in both hands. (Fig 216.)

6. *Shell exercises.*—Series 1

- (a) (Short astride, arms downward, shell held horizontal in front of body, left hand grasping base, right hand under grasp at driving band.) Bending right arm until shell touches left shoulder. Change grip and repeat with left arm. (Keep body erect and base of shell close to thigh throughout the exercise.) (Fig 217.)
- (b) (Astride, arms downward, shell held horizontal in front of body, alternate grasp.) Trunk and head turning. (Keep body erect and arms straight throughout the exercise.) (Fig 218.)
- (c) (Astride, trunk forward, arms downward, over grasp.) Arm bending until shell touches top of chest. (Keep back and legs straight.) (Fig 219.)

Quick reaction games and activities should be included during the above shell exercises. Choose one or two each lesson from the following :—

- (a) Change places with man on left or right, carrying shell.
- (b) First man with shell under left or right arm, or in any other named position.
- (c) Change shell with man opposite or man on left or right.
- (d) Shell passing relay, variation B. (Fig 220.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (6 minutes).*—Walking at a speed of 6 miles per hour (88 yds per half-minute).

*or*

2. *Running (6 minutes).*—Running at a speed of 9 miles per hour (132 yds per half-minute).

*or*

3. *Walking and running (6 minutes).*—20 walking paces alternating with 20 running paces.

*or*

4. *Surmounting obstacles.*—As in Table 4, Part IV, either indoors or outdoors, linking together a number of obstacles in the form of an obstacle course.



FIG. 209.

FIG. 210.

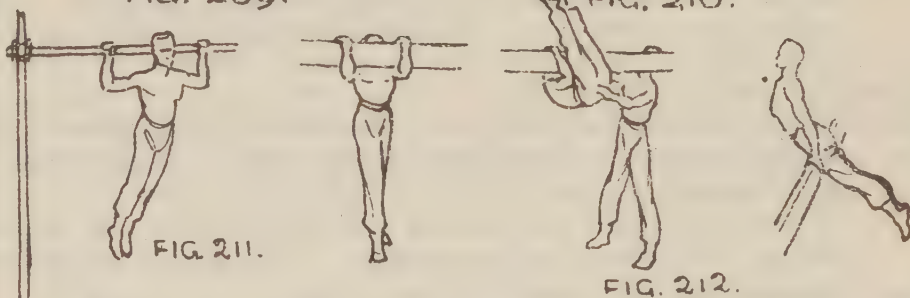


FIG. 211.

FIG. 212.

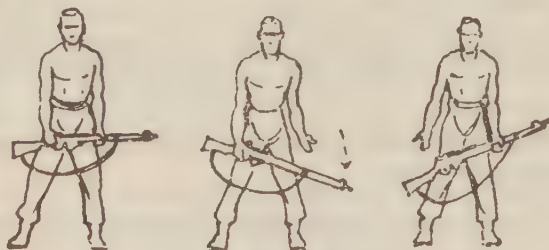


FIG. 213



FIG. 214.

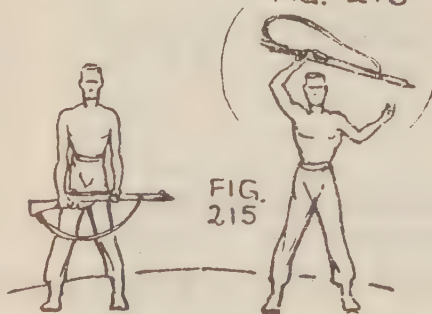


FIG. 215



FIG. 216.

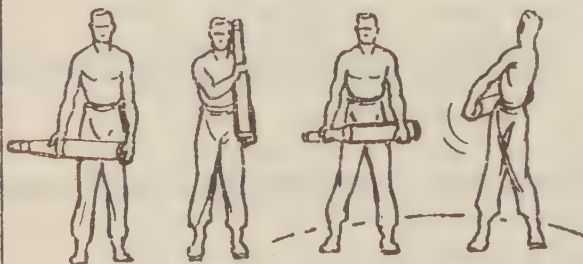


FIG. 217.

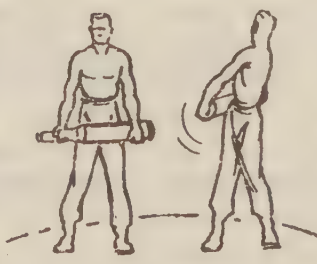


FIG. 218.



FIG. 219.



## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 6 ft to 8 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward.) (Fig 172.)
- (ii) Running forward high jump over obstacle 2 ft 6 ins high. (Fig 221.)

### (b) *Vaulting*

- (i) Running vault with foot assisting, carrying rifle (beam, horse, benches, tubular scaffolding or other improvised apparatus). (Fig 222.)
- (ii) Running horizontal through vault (horse or improvised apparatus, lengthways). (Fig 223.)

### (c) *Groundwork*.—Cartwheel. (Fig 224.)

### (d) *Throwing*.—Lobbing ball, stone or dummy grenade, left and right hand, through window target, from behind cover or round corners. (Fig 225.)

### (e) *Climbing*

- (i) Climbing vertical rope to a height of 30 ft or twice up a 15 ft rope.
- (ii) Climbing horizontal rope, lying on top or underneath with foot on rope, and using arms and legs. (Fig 226.)
- (iii) Climbing scramble net. (Fig 227.)

### (f) *Balancing*

- (i) Cat-walk up and down sloping benches, rib side uppermost, or up and down logs (benches fixed in wall-bars at a steep angle or logs resting against beam and firmly held.) (Fig 228.)
- (ii) (Balance standing.) Walking forward changing to cat walk along log (log resting on supports at about head-height and firmly fixed at each end.) (Fig 229.)

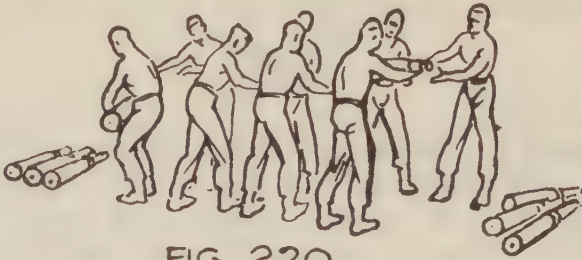


FIG. 220.

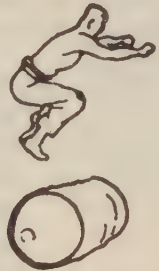


FIG. 221.

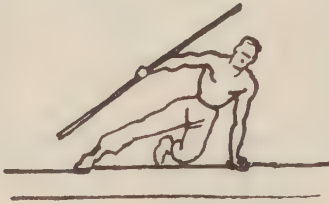


FIG. 222.



FIG. 223.

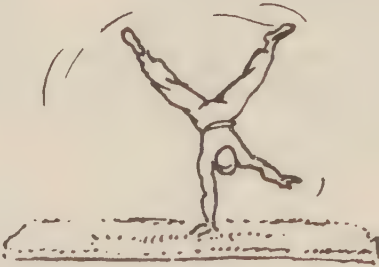


FIG. 224



FIG. 225.

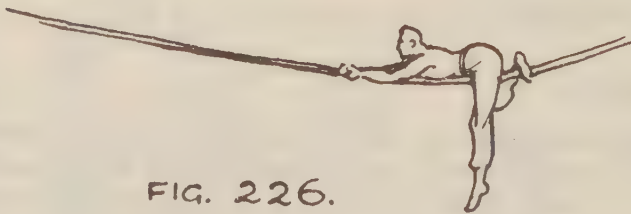


FIG. 226.

*(g) Individual fieldcraft movements*

- (i) Leopard crawl. (Use left leg several times in succession and then right leg several times in succession and so on.) (Fig 182.)
- (ii) (In pairs.) Neck drag, using hands and knees crawl. (Fig 230.)
- (iii) Running "going to ground" quickly on signal, followed by standing up quickly on command and continue running. (Fig 183.)

*(h) Sprinting.*—Sprint race over a distance of 75 yds.

2. *Relay race.*—Choose one of the following with which to end this part of each lesson :—

- (a) Carry man in threes relay. (Fig 231.)
- (b) Composite activity relay, *e.g.*, racing tunnel ball followed by arch and straddle relay.

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Position of attention.

## EXAMPLE OF TYPICAL LESSON MADE FROM TABLE 5 FOR RECRUITS UP TO 35 YEARS OF AGE

*Duration.*—40 minutes.

*Class.*—30 men in their fifth week of corps training.

*Place.*—Gymnasium fully equipped with fixed and portable apparatus.

*Dress.*—Denim trousers and shoes, stripped to waist.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Walking in circle; on signal, rapid walking to pass man in front, changing to running dodge and mark.

2. *Arm and shoulder.*—(Astride.) Arm swinging forward—upward with increasing range to reach arms upward position on third count, followed by arm swinging forward—upward three times. (Fig 186.)

3. *Trunk.*—(Astride, across bend, butcher's grip.) Trunk and head turning from side to side with elbow swinging. (Fig 187.)



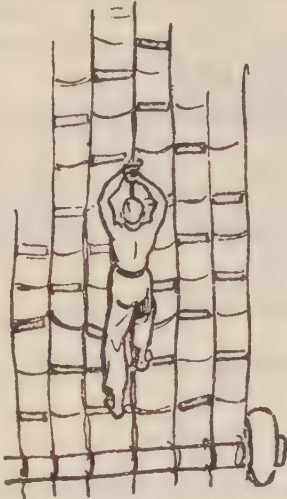


FIG. 227.



FIG. 228.

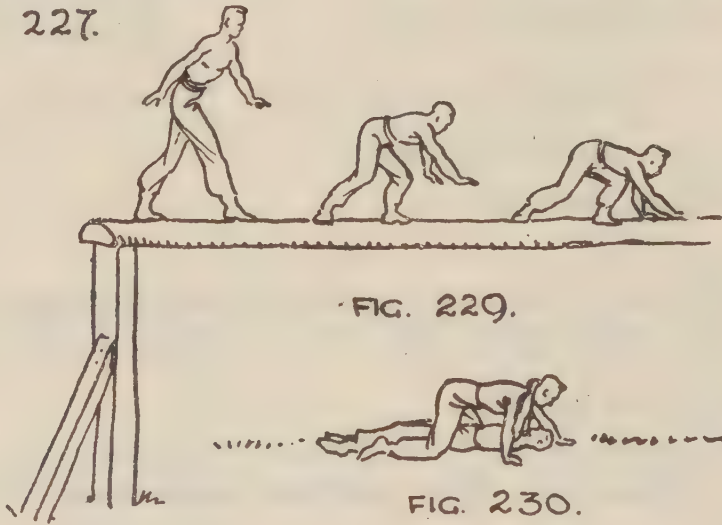


FIG. 229.



FIG. 230.



FIG. 231.

*Quick reaction activity.*—Knee boxing.

4. *Leg.*—Astride jumping with arm swinging sideways—upward, followed by two skip jumps when feet are together. (Fig 188.)

5. *Arm and shoulder.*—(Astride, arms sideways, hands loosely closed.) Arm swinging forward—upward, forward—sideways. (Fig 189.)

*Quick reaction activity.*—Chain racing.

6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch floor with fingertips or palms of hands to three counts followed by trunk stretching upward with arm swinging sideways on fourth count. (Fig 190.)

7. *Leg.*—Skip jumping to crouch with finger support, alternating with astride jumping to crouch with finger support, both after fourth count. (Fig 191.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Turn the turtle. (Fig 193.)

2. *Trunk.*—

(a) *Lateral.*—(Back lying, one leg raised to vertical position, arms sideways, palms on floor.) One leg lowering to touch floor near opposite hand, left and right. (Fig 195.)

*Quick reaction activity.*—Crows and cranes.

(b) *Abdominal.*—(Back lying, knees bent, feet on floor, arms sideways, palms on floor.) Knee raising (1), leg stretching to vertical position (2), bending (3), lowering (4). (Fig 199.)

(c) *Dorsal.*—(Prone lying, upward bend.) Trunk bending backward with arm stretching sideways. (Fig 203.)

*Quick reaction activity.*—Hands, feet and eyes closing.

3. *Pulling and pushing.*—Pushing on log versus pulling on rope. (Fig 208.)

4. *Abdominal.*—(One foot forward, under heave grasp.) Circling forward—upward with or without assistance (beam). (Fig 212.)

## PART III.—ENDURANCE. (6 minutes)

*Obstacle training.*—Indoor obstacle course making use of beams, horses, ropes, benches and mats.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities.*—

(a) *Jumping and vaulting.*—Running forward high jump over barrack bench followed by vault with foot assisting over beam, carrying rifle.

(b) *Climbing.*—Climbing horizontal or inclined rope, lying underneath, with feet on rope and using arms and legs. (Fig 87.)

*Return activity.*—Cartwheel. (Fig 224.)

(c) *Balancing.*—Cat walk up and down sloping benches, rib side uppermost and fixed in wall-bars. (Fig 228.) Men waiting for their turn practise hand-standing in pairs.

(d) *Individual fieldcraft movements*

(i) Leopard crawl carrying rifle.

(ii) (In pairs.) Neck drag, using hands and knees crawl. (Fig 230.)

NOTE.—Men change round from one activity to the next every 3 minutes.

2. *Relay race.*—Composite activity relay. Racing tunnel ball followed by arch and straddle relay.

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Position of attention.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE 6

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Choose one of the following each lesson :—

(a) VC race.

(b) Horses and jockeys followed by back support race.



2. *Arm and shoulder*.—(Astride, arms sideways, hands loosely closed.) Arm swinging downward-forward, downward-sideways-upward to arms crossed, followed by arm swinging midway-upward, followed by arm circling in front of body to arms sideways. (Keep palms facing forward in the midway-upward position and make the arm circling movement as large as possible.) (Fig 232.)

3. *Trunk*.—(Astride, hands on hips.) Trunk rolling. (Smooth, continuous circling movement with uniform speed throughout and passing through side bend position to one side, relaxed downward bend, side bend position to opposite side and slight backward bend position.) (Fig 233.)

4. *Leg*.—Jumping to standing astride (1), jumping to bring feet together (2), jumping to crouch with finger support (3). (Jump upward before bending knees forward to crouch position on third movement and continue the exercise from crouch.) (Fig 234.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow circling backward slowly with shoulder rolling. (Keep body erect and shoulders relaxed.) (Fig 235.)

6. *Trunk*.—Relaxed trunk bending downward to touch floor with finger tips or palms of hands, followed by knee bending forward to crouch, followed by knee stretching with relaxed trunk bending downward to touch floor. (Try to touch knees with forehead during relaxed trunk bending downward movement and keep legs straight.) (Fig 236.)

7. *Leg*.—Skip jumping with knee raising high after given count. (Fig 237.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

(a) Catch and pull tug-of-war. (Fig 238.)

(b) Squat tug-of-war. (Fig 239.)

(c) Lifting relay. (Fig 240.)

### 2. *Trunk*

(a) *Lateral*

#### Free-standing

(i) (Back lying, legs raised to vertical position, arms sideways, palms on floor.) Leg lowering to touch floor near opposite hand. (Keep shoulders flat on floor and legs straight.) (Fig 241.)

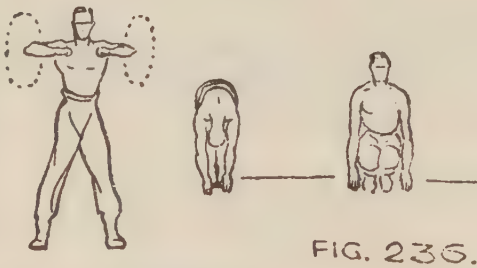
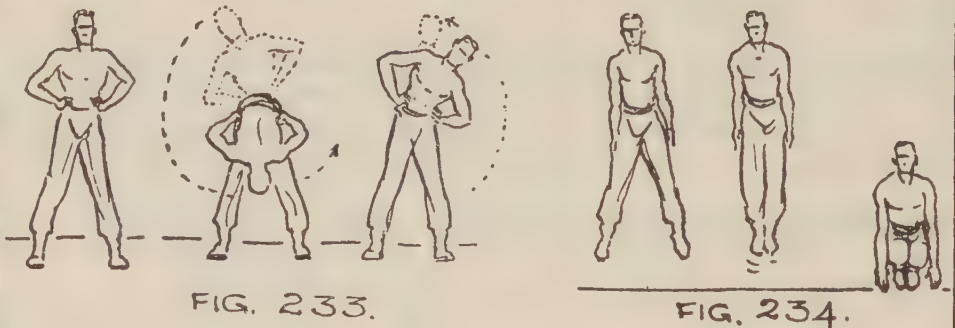
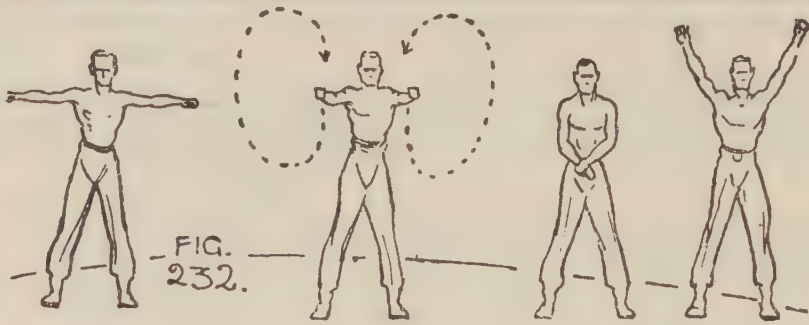


FIG. 236.



- (ii) (Astride, relaxed trunk downward and turned, one arm sideways, one arm downward with hand touching opposite foot.) Trunk turning from side to side to touch opposite foot. (Try to touch knee with forehead and perform exercise moderately slowly.) (Fig 242.)

or

### Medicine ball

- (iii) (In pairs, astride, back to back, about 1 yd apart, arms forward, ball held at shoulder-height.) Trunk and head turning passing ball backward with straight arms to partner. (Keep arms in line with shoulders, and both feet flat on floor during the trunk turning.) (Fig 243.)

or

### Log

- (iv) (Astride, log held under one arm.) Trunk bending away from log with one arm reaching downward (1-4), followed by trunk bending towards log with opposite arm swinging sideways-upward (5-8). (Keep log high up under arm and fingers stretched during arm movements.) (Fig 244.)

## (b) *Abdominal*

### Free-standing

- (i) (Back lying, arms upward, palms facing inwards, hands loosely closed.) Trunk swinging forward-downward, reaching as far forward as possible, followed by leg raising to vertical position. (Fig 245.)
- (ii) (In pairs, short astride, back to back, elbows linked.) Lifting the sack. (Bend knees and raise them high. Partners must be as nearly the same height and weight as possible.) (Fig 246.)

or

### Medicine ball

- (iii) (In pairs, facing same direction, about 2 yds apart, one standing astride, one sitting with legs straight and ball resting on feet.) Rolling backward quickly with straight legs, throwing ball backward overhead from feet to partner. (At first it may be desirable to sit with bent knees and ball held between feet to make the starting position easier.) (Fig 247.)

or





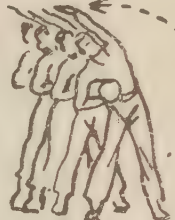
FIG. 241.



FIG. 242.



1-4



5-8

FIG. 244.

FIG. 243.



FIG. 245.

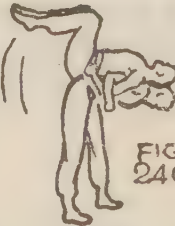


FIG. 246.

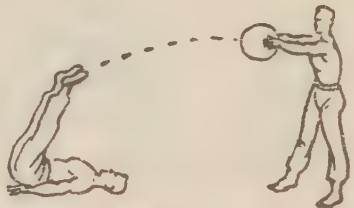


FIG. 247.

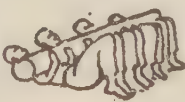


FIG. 248.

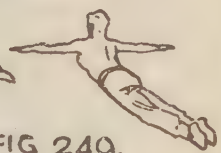


FIG. 249.



FIG. 250.



FIG. 251.

**Log**

- (iv) (Back lying, knees bent, log held in crook of arms in front of chest.) Trunk raising to vertical position with leg stretching. (Slide heels along floor during leg stretching and also during the return movement.) (Fig 248.)

**(c) Dorsal****Free-standing**

- (i) (Prone lying, upward bend, trunk backward.) Arm stretching sideways. (Repeat arm stretching movement two or three times before lowering trunk to floor.) (Fig 249.)

*or*

- (ii) (In pairs, back to back, one foot forward, arms backward, backward grasp.) Arm raising sideways-upward. (The arm raising movement should be performed slowly with straight arms. Partners must be as nearly the same height as possible.) (Fig 250.)

*or***Medicine ball**

- (iii) (In pairs, facing, prone lying, one or two yards apart, ball held in front of face with both hands, arms bent.) Trunk bending backward, followed by throwing ball forward to partner. (Keep elbows clear of floor when throwing ball.) (Fig 251.)

*or***Log**

- (iv) (Two ranks, facing, one foot forward, one rank holding log in crook of arms.) Throwing upward-forward to other rank. (Fig 252.)

**3. Pulling, pushing, lifting and carrying****(a) Pulling and pushing**

- (i) Pulling and pushing, using improvised gun-man-handling training apparatus. (Figs 253, 254 and 255.)

*or*

- (ii) Pulling and hauling heavy tree stump, or several logs lashed together, on the flat or up slopes. (Figs 256 and 257.)

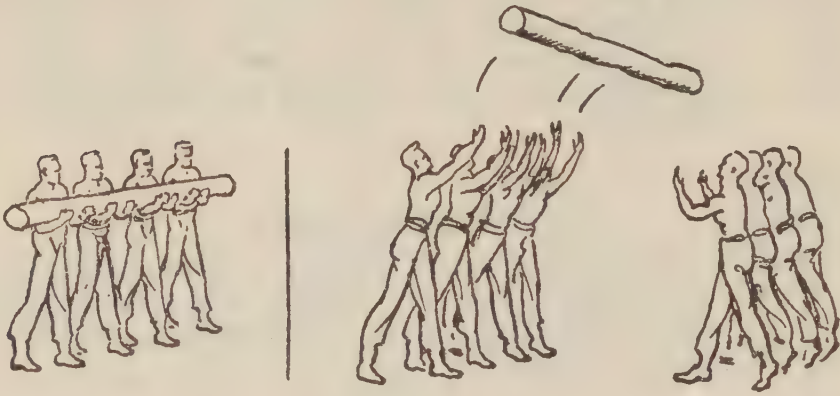


FIG 252.

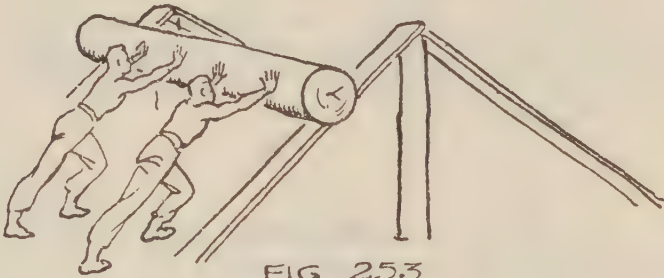


FIG 253

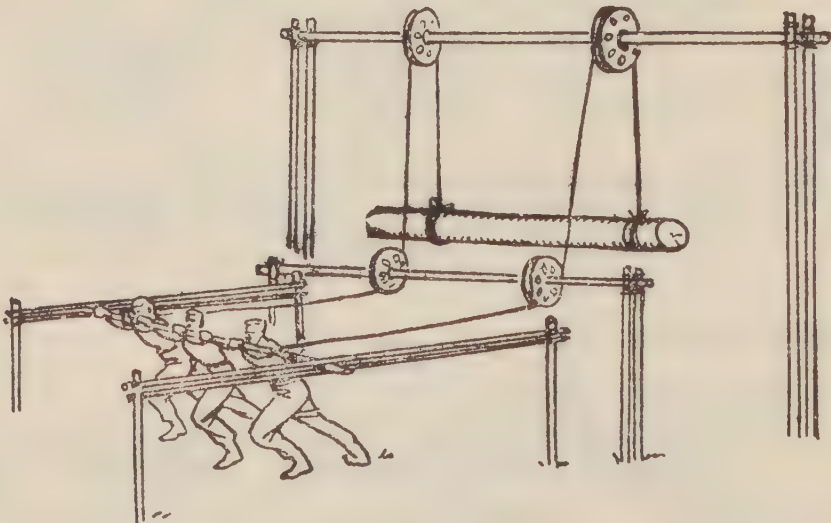


FIG 254.



(b) *Lifting and carrying*

- (i) Collier's lift using improvised apparatus. (Fig 258.)
- (ii) Fireman's lift, subject to be carried 100 yards in 60 seconds.

4. *Heaving and abdominal*

- (a) *Heaving*.—(Hanging, over grasp.) Arm bending to bring chest as near to apparatus as possible, followed by knee raising high to touch apparatus with insteps or shins (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus).

or

- (b) *Abdominal*.—(Hanging, under grasp.) Circling forward-upward, with or without assistance (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 259.)

NOTE.—When either Group 5 or 6 (rifle exercises and shell exercises) are included in the lesson, either Group 3 or 4 (pulling, pushing, lifting and carrying, or heaving and abdominal) will be omitted. In the early stages, it may even be necessary to omit both of these groups.

Approximately 5 minutes should be devoted to either rifle or shell exercises.

5. *Rifle exercises*.—*Standard I. Advanced*.—Quick reaction activities involving the use of the standing A.A. aim and swing in any direction indicated should be given during the following exercises. A visual or sound signal should be used for this purpose. The clock-face method may also be used to indicate the target.

- (a) *Grip (Forward hip hold)*.—(Astride, arms downward, alternate grasp.) Releasing left hand grip and moving rifle to point to front. Change hands and grip, repeat exercise releasing right hand grip. (The rifle must be kept parallel to ground, and the position held longer as strength develops.) (Fig 260.)
- (b) *Dexterity (Hand to hand throw)*.—(Astride, right arm forward, elbow bent to a right angle, grasp at point of balance, rifle vertical.) Passing rifle from hand to hand. (The distance between the hands should be increased as dexterity is developed.) (Fig 261.)
- (c) *Shoulder (Shoulder rolling)*.—(Astride, rifle held horizontal, in front of and close to chest, elbows to sides, over grasp.) Alternate shoulder rolling forward and backward, large and small circles. (Fig 262.)

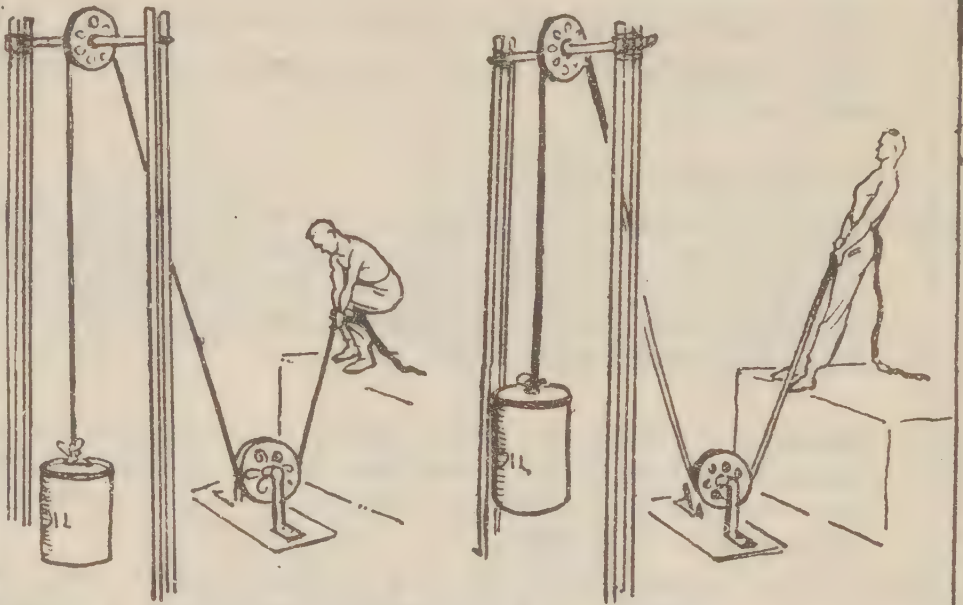


FIG. 255.

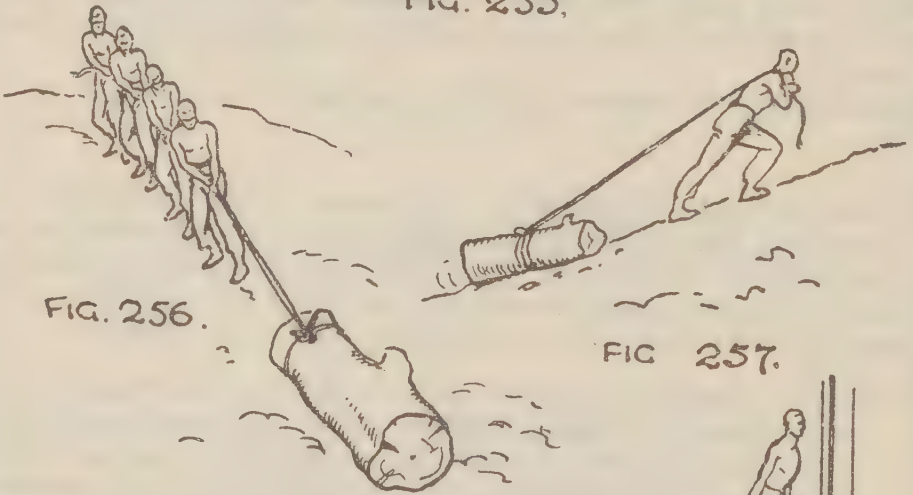


FIG. 256.

FIG 257.

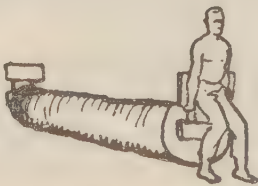


FIG 258.

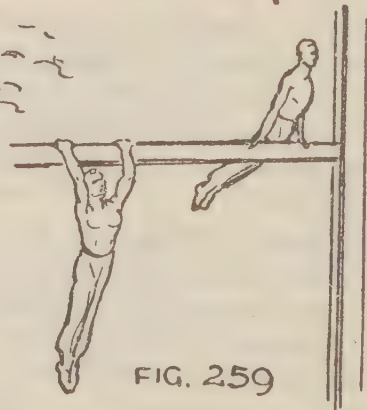


FIG. 259

- (d) *Wrist (Outward circle).*—(Astride, arms forward, elbows bent to a right angle, under grasp.) Releasing left hand grip, swinging rifle downward-sideways-over and catching at the outer band in the left hand. Change hands and repeat exercise, releasing right hand. (At the completion of the overswing movement the wrist will be twisted and it will be necessary to change the grip before commencing the next swing.) (Fig 263.)

#### 6. *Shell exercises.*—Series 1

- (a) (Foot slightly forward, shell held horizontal behind neck, over grasp.) Arm stretching upward. (Keep legs and back straight and push shell to full extent of arms.) (Fig 264.)
- (b) (Short astride, toes pointing forward, shell held horizontal behind neck, over grasp.) Knee full bending forward. (Keep back flat and heels on floor.) (Fig 265.)
- (c) (Astride, shell vertical and grasped below fuze with left hand above right, hands in front of chest.) Moving shell upward, hand under hand, and moving shell downward, hand over hand. (Keep body erect throughout the exercise.) (Fig 266.)

Quick reaction games and activities should be included during the above shell exercises. Choose one or two each lesson from the following :—

- (a) Lift shell to vertical position in front of body, revolve sideways a given number of times and then lower it to floor.
- (b) Running round shell followed by jumping over it, both a given number of times.
- (c) Sprint relay with shell. (Fig 267.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking and running (6 minutes).*—Walking paces alternating with running paces, varying number of paces in each according to nature of ground.

or

2. *Surmounting obstacles.*—As in Table 4, Part IV, either indoors or outdoors, linking together a number of obstacles in the form of an obstacle course and introducing fieldcraft movements between obstacles. Later, surmounting obstacle course as a section.



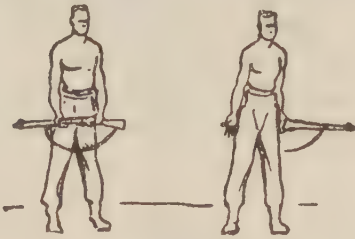


FIG. 260



FIG. 261.

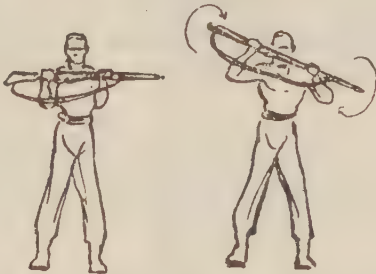


FIG. 262.

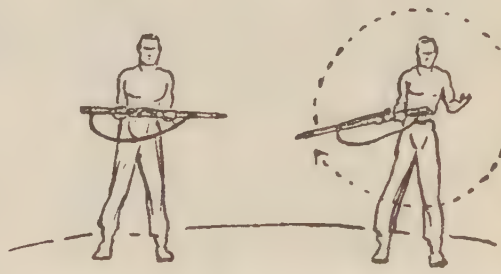


FIG. 263

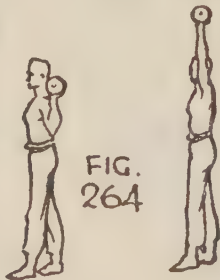


FIG. 264



FIG. 265.



FIG. 266.



FIG. 267.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

### (a) *Jumping*

- (i) Running forward high jump (Fig 268) ; or fence and ditch jump ; or high jump with high take-off ; or downward jump (Fig 269) from various heights between 6 ft and 8 ft carrying rifle (jumping stands and rope, benches, logs or improvised apparatus).
- (ii) Running stride jump (Fig 270), or long jump, over marked space, ditch or trench, carrying rifle.

### (b) *Vaulting*

- (i) Running gate vault or gate roll (horse, beam, logs, or improvised apparatus). (Fig 271.)
- (ii) Running side vault carrying rifle (beam or improvised apparatus). (Fig 272.)
- (iii) Running horizontal astride or through vault (horse or improvised apparatus, lengthways). (Figs 175 and 223.)

(c) *Groundwork*.—Cartwheel followed by forward roll.

(d) *Throwing*.—Revision of throwing exercises from standing or lying positions.

### (e) *Climbing*

- (i) Climbing vertical rope 12 ft high, traverse a 20 ft span of horizontal rope and descend with the aid of a rope.
- (ii) Climbing vertical, inclined or horizontal ropes.

### (f) *Balancing*

- (i) Walking up sloping bench, flat side uppermost on to beam fixed at about stretch-height, walking forward or sideways along beam, flat side uppermost and down sloping bench. (Fig 180.)
- (ii) Running along B. of E. bench, flat side uppermost, jumping gap on to another B. of E. bench and continue running, carrying rifle. (Fig 273.)

### (g) *Individual fieldcraft movements*

- (i) Revision of fieldcraft movements, carrying rifle.
- (ii) Running "going to ground" quickly on signal, followed by leopard crawl, followed by standing up quickly on command and continue running.

(h) *Sprinting*.—Sprint race over a distance of 50, 75 or 100 yds, carrying rifle.

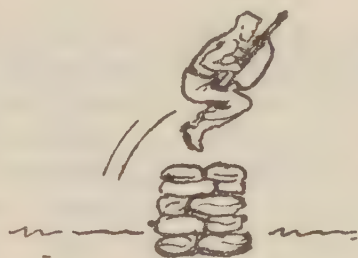


FIG. 268.

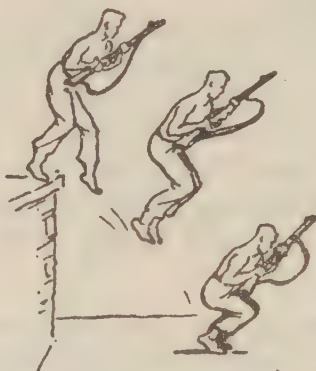


FIG. 269



FIG. 270.



FIG 271.



FIG. 272.



FIG 273.



2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

(a) Wheel relay.

(b) Composite activity relay, *e.g.*, over and under stick relay followed by leap frog relay.

#### PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Position of attention.
3. Marching in squad formation.

### EXAMPLE OF TYPICAL LESSON MADE FROM TABLE 6 FOR RECRUITS UP TO 35 YEARS OF AGE

*Duration*.—40 minutes.

*Class*.—30 men in their ninth week of corps training.

*Place*.—Outdoors, no apparatus.

*Dress*.—Denim trousers and boots, stripped to waist.

#### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Horses and jockeys followed by back support race.

2. *Arm and shoulder*.—(Astride, arms sideways, hands loosely closed.) Arm swinging downward-forward, downward-sideways-upward to arms crossed, followed by arm swinging midway-upward, followed by arm circling in front of body to arms sideways. (Fig 232.)

*Quick reaction activity*.—George's 100 up.

3. *Trunk*.—(Astride, hands on hips.) Trunk rolling. (Fig 233.)

4. *Leg*.—Jumping to standing astride (1), jumping to bring feet together (2), jumping to crouch with finger support (3). (Fig 234.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow circling backward slowly with shoulder rolling. (Fig 235.)

*Quick reaction activity*.—Chinese boxing.

6. *Trunk*.—Relaxed trunk bending downward to touch ground with fingertips or palms of hands, followed by knee bending forward to crouch, followed by knee stretching with relaxed trunk bending downward to touch ground. (Fig 236.)

7. *Leg.*—Skip jumping with knee raising high after every third count. (Fig 237.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Catch and pull tug-of-war. (Fig 238.)

2. *Trunk.*—

(a) *Lateral.*—(Astride, relaxed trunk downward and turned, one arm sideways, one arm downward with hand touching opposite foot.) Trunk turning from side to side to touch opposite foot. (Fig 242.)

*Quick reaction activity.*—V.C. race.

(b) *Abdominal.*—(In pairs, short astride, back to back, elbows linked.) Lifting the sack. (Fig 246.)

(c) *Dorsal.*—(In pairs, back to back, one foot forward, arms backward, backward grasp.) Arm raising sideways-upward. (Fig 250.)

3. *Rifle exercises.*—

*Standard I. Advanced.*—Quick reaction activities involving the use of the standing A.A. aim and swing in any direction indicated should be given during the following exercises. A visual or sound signal should be used for this purpose. The clock-face method may also be used to indicate the target.

(a) *Grip (Forward hip hold).*—(Astride, arms downward, alternate grasp.) Releasing left hand grip and moving rifle to point to front. Change hands and grip, repeat exercise releasing right hand grip. (Fig 260.)

(b) *Dexterity (Hand to hand throw).*—(Astride, right arm forward, elbow bent to a right angle, grasp at point of balance, rifle vertical.) Passing rifle from hand to hand. (Fig 261.)

(c) *Shoulder (Shoulder rolling).*—(Astride, rifle held horizontal, in front of and close to chest, elbows to sides, over grasp.) Alternate shoulder rolling forward and backward, large and small circles. (Fig 262.)

(d) *Wrist (Outward circle).*—(Astride, arms forward, elbows bent to a right angle, under grasp.) Releasing left hand grip, swinging rifle downward-sideways-over and catching at the outer band in the left hand. Change hands and repeat exercise, releasing right hand. (Fig 263.)

### PART III.—ENDURANCE. (6 minutes)

*Walking and running* (6 minutes).—Walking paces alternating with running paces, varying number of paces in each according to nature of ground.

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

#### 1. *Group activities*.—

- (a) *Jumping*.—Running long jump followed by running stride jump over trench, ditch, or marked space, carrying rifle.
- (b) *Vaulting*.—Running horizontal astride vault over human "horse" (two men in scrumming position, lengthways).
- (c) *Sprinting*.—Sprint race over a distance of 100 yds carrying rifle, followed by carrying partner by means of the fireman's lift back to the starting position.
- (d) *Throwing*.—Lobbing dummy grenade, left and right hand, on to ground target from behind cover.

NOTE.—Men change round from one activity to the next every 3 minutes.

#### 2. *Relay race*.—Wheel relay.

### PART V.—CARRIAGE. (2 minutes)

- 1. Re-form class in three ranks.
- 2. Position of attention.
- 3. Marching in squad formation.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.



## CHAPTER 2

## BASIC PHYSICAL TRAINING TABLES FOR RECRUITS OVER 35 YEARS OF AGE

52. *Use of the Tables.*—The basic Tables A to D are intended to be used for the physical training of recruits over 35 years of age, or of recruits under 35 years of age who are of poor physique or capabilities. They cover the entire period of recruit training. Tables A and B are for use during the six weeks training in the Primary Training Centre or Primary Training Wing and Tables C and D during the period of corps training, the length of which will vary according to the arm of the service to which the recruit is allotted after his period of primary training. Approximately three weeks will be spent on each of Tables A and B in the Primary Training Centre or Primary Training Wing. The amount of time spent on each of Tables C and D will vary according to the length of corps training of the particular arm of the service concerned. In general principle, however, the total time available should be approximately equally divided between the two Tables. All the Tables provide sufficient material from which the instructor can construct interesting, varied and effective lessons for the whole period during which the Table is in use.

53. *Progressive training.*—It is especially important that the physical training for older recruits should be carefully planned and applied on sound progressive lines so that they may benefit fully from the training. This particularly applies to such activities as jumping, vaulting and obstacle training. In order that progression may be sufficiently gradual for older recruits only two Tables are provided for the period of primary training and two more for corps training. This enables the instructor to plan a carefully progressed series of lessons from the Tables and the recruit to have adequate practice of the fundamentals of physical training, in particular of the fundamentals of such activities as vaulting and jumping. If these activities are not carefully and progressively taught, there is a danger of foot and ankle injuries to which older recruits seem especially liable. Many of these older men suffer from weak feet and it should be the aim of the physical training instructor to pay particular attention to the strengthening of the recruits' feet.

Wherever possible the physical training of older recruits should be in the hands of older assistant instructors, as they are much

more likely to understand and appreciate the limitations of older recruits than are the younger assistant instructors.

54. *Continuity of training.*—As previously pointed out, if physical training is to have the desired result it is essential that it should proceed regularly to its conclusion, unspoiled by interruptions. Without this continuity, progression is impossible. It is of special importance that the physical training of older recruits, once commenced, should continue without interruption for 40 minutes daily (actual working time) for the prescribed period of training.

55. *Construction of Tables.*—The general arrangement of each Table and the approximate time to be spent on each part have been given in detail in Chapter 1. The Tables for recruits over 35 years of age follow the same arrangement as the Tables for recruits up to 35 years of age, with a few adaptations to meet the special requirements of the older recruit. The Tables consist of the same five parts and, in general, each part consists of the same exercises or activities. In Tables A and B, however, the first leg exercise in Part I is a direct foot exercise of a corrective and strengthening type, instead of the more vigorous astride or skip jumping exercise of Tables 1 and 2 for recruits up to 35 years of age. In addition, the jumping and vaulting exercises in Tables A to D are simpler and more gradually progressed than the corresponding exercises in Tables 1 to 6.

56. *Method of instruction.*—If Tables A to D are to be successful with recruits over 35 years of age every individual exercise and every lesson as a whole must be carefully and intelligently applied by the instructor. The mere fact of having special Tables for older recruits does not necessarily mean that the physical training of these men will be more effective and beneficial than previously. Everything will depend upon intelligent application on the part of the instructor. On the whole, the tempo of the lesson for older recruits will be slower than the tempo of the lesson for younger recruits; the exercises or activities will not be repeated so often and the quick reaction games and activities will generally be more mental than physical and of a less vigorous nature.

The methods of instruction which will be used for the various parts of the Table are described in Chapter 1, and these also apply to the Tables for recruits over 35 years of age. Secs 6 to 14 of the same Chapter also apply to the physical training of recruits over 35 years of age.



## BASIC PHYSICAL TRAINING TABLES FOR RECRUITS OVER 35 YEARS OF AGE

### TABLE A

Quick reaction games and activities should be introduced during any part of the lesson, as required, to keep the recruits mentally and physically "on their toes."

#### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

- (a) Racing round the course.
- (b) Dodge and mark.

2. *Arm and shoulder*.—(Astride, one hand on hip.) One arm circling backward. (Try to "brush" the ear with the upper arm and keep the hand loosely closed.) (Fig 1.) Later, (Astride.) Arm circling backward. (Fig 1.)

3. *Trunk*.—(Astride.) Trunk bending from side to side. (Keep arms close to body and allow hands to slide up and down outer sides of legs.) (Fig 2.)

4. *Leg*.—(Feet closed.) Alternate heel raising slowly. (As one heel is raised the other one is lowered. Keep body erect throughout the exercise.) (Fig 274.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1), followed by arm swinging forward-sideways (2). (Keep arms in line with shoulders and hands loosely closed throughout the exercise.) (Fig 4.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands and trunk unrolling. (The unrolling should be a little slower than the relaxed trunk bending downward.) (Fig 5.)

7. *Leg*.—Astride jumping. Later, astride jumping with arm swinging sideways. (Keep arms straight and fingers stretched.) (Fig 6.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

#### PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) Line tug-of-war. (Fig 7.)
- (b) *Poison*. (Fig 8.)
- (c) Pushing and pulling in pairs. (Figs 9 and 10.)



## 2. Trunk

### (a) Lateral

#### Free-standing

- (i) (Side support, hip on floor, upper leg slightly backward, one hand on hip.) Hip raising high. (Keep lower leg in line with body and make as high an "arch" as possible.) (Fig 11.)

or

- (ii) (In pairs, facing, one foot forward, butcher's grip, one arm straight, one arm bent, arms level with shoulders.) Sawing. (Keep arms level with shoulders throughout and perform the exercise moderately slowly.) (Fig 12.)

or

#### Medicine ball

- (iii) (In pairs, astride, back to back, about 1 yd apart.) Figure-of-eight passing backward to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 13.)

### (b) Abdominal

#### Free-standing

- (i) (Back lying, knees bent, feet on floor, arms straight and close to body, palms on floor.) Head and shoulder raising. (Keep arms straight throughout the exercise.) (Fig 14.)

or

- (ii) One knee raising high and pressing towards chest with assistance of hands, left and right. (Raise knee as high as possible before pressing towards chest with assistance of hands. Keep body as erect as possible.) (Fig 15.)

or

#### Medicine ball

- (iii) (In pairs, facing, 2 or 3 yds apart, sitting with knees bent, heels resting on floor, trunk inclined slightly backward, arms backward, palms on floor.) Quick knee stretching and pushing ball forward with soles of feet to partner. (Keep ball moving to and fro with minimum of stopping.) (Fig 275.)

### (c) Dorsal

#### Free-standing

- (i) (Prone lying, hands on hips.) Trunk bending backward. (Bend as high in back as possible.) (Fig 17.)

or

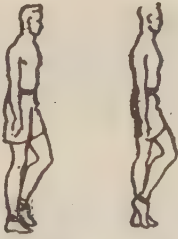


FIG. 274.

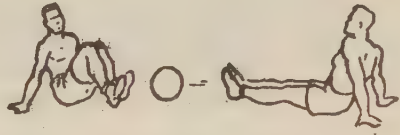


FIG. 275.

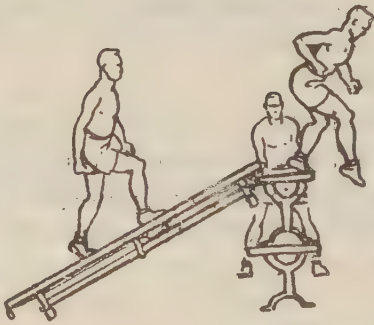


FIG. 276.

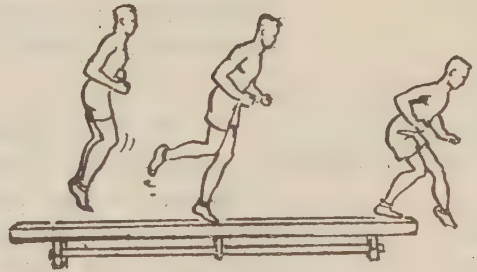


FIG. 277.



FIG 278.

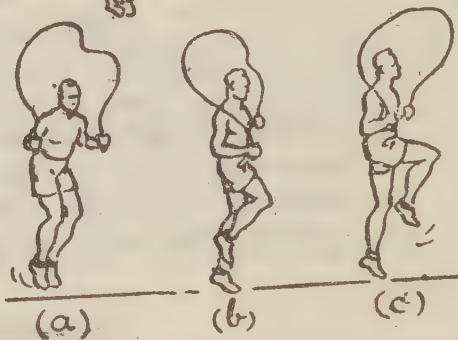


FIG 279.

(a)

(b)

(c)

- (ii) (One foot forward, hands on hips.) Trunk bending backward. (Bend as high in back as possible.) (Fig 18.)

or

### Medicine ball

- (iii) (In pairs, astride, facing, several yards apart, ball held in front of chest with arms bent.) Relaxed trunk bending downward and stretching forward, throwing ball forward to partner. (Figs 19 and 20.)

### 3. Pulling, pushing, lifting and carrying

#### (a) Pulling and pushing

- (i) Basic technique of pulling position on rope. (Fig 21.)

or

- (ii) (In pairs, facing.) Pulling and pushing using one or two sticks. (Fig 23.)

or

#### (b) Lifting and carrying

- (i) Basic technique of lifting from floor, carrying and lowering various shaped objects, 50-60 lb in weight. (Fig 24.)

or

- (ii) Two, three and four-handed methods of lifting from floor, carrying and lowering an injured man. (Figs 25-28.)

### 4. Heaving and abdominal

- (a) *Heaving*.—(Hanging, under grasp.) Arm bending, with or without assistance, until eyes are level with top of apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 29.)

or

- (b) *Abdominal*.—(Hanging, over grasp.) One knee raising high, left and right (Figs 30 and 32.) Later, knee raising high (wall-bars, beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 31.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Basic technique of walking with special attention to foot action, poise of body and co-ordination of leg and arm action. (Fig 33.) Later, walking at a speed of 5 miles per hour (approximately 73 yds per half-minute).

and



2. *Running (3 minutes).*—Basic technique of running with special attention to relaxation and correct arm, leg and foot action. (Fig 34.) Later, running at a speed of  $8\frac{1}{2}$  miles per hour (approximately 125 yds per half-minute).

#### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities.*—Choose three or four of the following activities each lesson :—

##### (a) *Jumping*

- (i) Walking up inclined bench or improvised apparatus and downward jump stepping off from one foot, gradually increasing height of apparatus from 2 ft to 4 ft (horse, benches or improvised apparatus). (Jump downward and slightly forward.) (Fig 276.)
- (ii) Hopping or jumping on two feet along bench top, finishing with a step off from one foot. (B. of E. bench or improvised apparatus.) (Fig 277.)
- (iii) Jumping the bag. (Fig 278.)
- (iv) Skipping exercises using skip jumps (a), hopping (b) or skip running action on spot (c). (Fig 279.)
- (v) (In threes.) Jumping the stick. (Fig 280.)

##### (b) *Vaulting*

- (i) (Side standing, one leg backward.) Oblique back vault landing on both feet with side of body towards apparatus (beam, benches or improvised apparatus, waist-height.) (Fig 38.)
- (ii) (In threes.) Leap frog. (Fig 281.)
- (iii) (Side standing.) Face vault with bent knees and progressing along apparatus (bench or improvised apparatus). (Fig 282.)

##### (c) *Groundwork.*—Forward roll (mat). (Fig 40.)

##### (d) *Throwing*

- (i) (In pairs.) Throwing underhand or overhand to partner from standing position, left and right hand, and catching with one or both hands. (Fig 41.)
- (ii) Throwing overhand from standing position, left and right hand, at target on wall or floor. (Fig 42.)

NOTE.—Improvised ball, stone or dummy grenade, will be necessary for the above throwing practices.

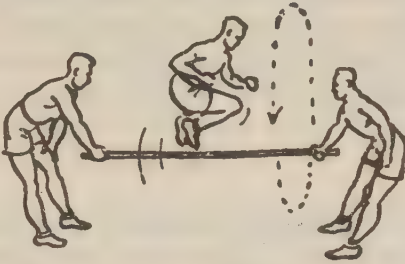


FIG. 280.

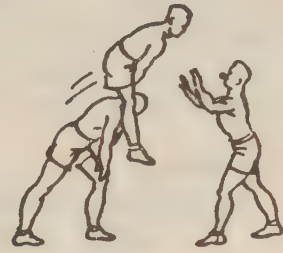


FIG. 281.



FIG. 282

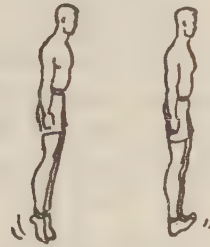


FIG. 283.

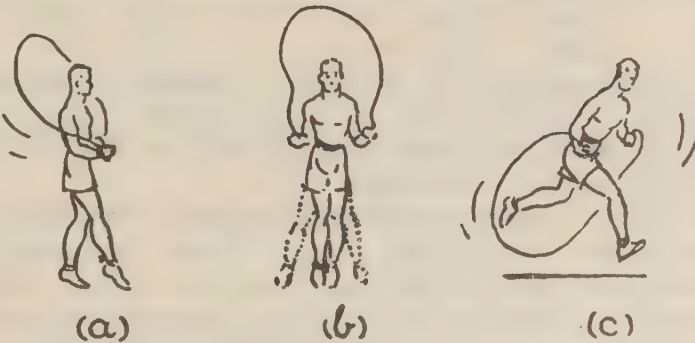


FIG. 284.



FIG. 285.

(e) *Climbing*.—(High sitting.) Position for climbing, (i) grip of feet, (ii) grip of feet and knees, (iii) grip of feet, knees and hands. To test grip, swing in climbing position from bench to bench placed about 4 ft on either side of rope. (Fig 43.) Later, climbing several paces using arms and legs. (Fig 44.)

(f) *Balancing*

(i) (Balance standing.) Walking forward and backward. Later, walking sideways (apparatus at about knee-height). (Fig 45.)

(ii) (Balance standing.) Walking forward and stepping over objects placed at intervals across the apparatus (apparatus at about knee-height). (Fig 46.)

NOTE.—For the balance exercises on apparatus use the beam flat side uppermost, B. of E. benches rib side uppermost, or improvised apparatus. In all balance exercises the arms and shoulders should be relaxed and move freely in any direction, as required, to maintain balance.

(g) *Individual fieldcraft movements*

(i) Freezing. (Fig 47.)

(ii) Technique and practice of "going to ground" and standing up slowly (carrying stick to represent rifle). (Fig 48.)

NOTE.—*Going to ground. Starting position*.—Standing (later, walking and running), stick (later rifle) carried obliquely across and close to the body by left (right) hand at the point of balance.

*Detail of movements. Going down*.—Take a pace forward with the left (right) foot. Bend downward and place the right (left) hand one pace in front of and slightly to the right (left) of this foot, allowing the stick or rifle butt, to swing under the right (left) armpit. Lower the chest to the ground in advance of the forward hand, breaking the fall along the forearm of the hand holding the stick or rifle. At the same time, move the left (right) leg sideways. Both heels must be kept on the ground and care must be taken not to let the stick or rifle butt hit the ground. By transferring the free hand to the small of the butt and advancing the other arm as far as possible, the body is in position for a leopard crawl or ready to fire from a lying position.

*Getting up*.—Place the right (left) hand on the ground under the chest and press upward, at the same time bringing the left (right) leg forward with knee bent under the chest. Then move straight forward as in a sprint start.



*(h) Sprinting*

(i) The crouch start. (Fig 49.)

(ii) George's 100 up, including several short spells of acceleration. (Fig 50.)

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

(a) Arch and tunnel relay. (Fig 51.)

(b) Leap frog relay. (Fig 52.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Position of attention.

## EXAMPLE OF TYPICAL LESSON MADE FROM TABLE A FOR RECRUITS OVER 35 YEARS OF AGE

*Duration*.—40 minutes.*Class*.—30 men in their second week of primary training.*Place*.—Gymnasium, fully equipped with fixed and portable apparatus.*Dress*.—P.T. kit and shoes, stripped to waist.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Dodge and mark, hopping on one foot.

2. *Arm and shoulder*.—(Astride.) Arm circling backward. (Fig 1.)

3. *Trunk*.—(Astride.) Trunk bending from side to side. (Fig 2.)

4. *Leg*.—(Feet closed.) Alternate heel raising slowly. (Fig 274.)

*Quick reaction activity*.—North, south, east and west.

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1), followed by arm swinging forward-sideways (2). (Fig 4.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands and trunk unrolling. (Fig 5.)

7. *Leg*.—Astride jumping. (Fig 6.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Poison (groups of 4 or 5 men) (Fig 8.)

2. *Trunk*.—

(a) *Lateral*.—(In pairs, astride, back to back, about 1 yard apart.) Figure-of-eight passing medicine ball backward to partner. (Fig 13.)

*Quick reaction activity*.—See which pair can first complete the above exercise six times.

(b) *Abdominal*.—(In pairs, facing; 2 or 3 yds apart, sitting with knees bent, heels resting on floor, trunk inclined slightly backward, arms backward, palms on floor.) Quick knee stretching and pushing medicine ball forward with soles of feet to partner. (Fig 275.)

*Quick reaction activity*.—(In pairs, astride, about 2 yds apart.) Trying to throw ball unexpectedly through arch formed by partner's legs.

(c) *Dorsal*.—(In pairs, astride, facing, several yards apart, ball held in front of chest with arms bent.) Relaxed trunk bending downward and stretching forward, throwing medicine ball forward to partner. (Figs 19 and 20.)

3. *Lifting and carrying*.—Three-handed method of lifting from ground, carrying and lowering an injured man. (Fig 26.)

*Quick reaction activity*.—Knee boxing.

4. *Heaving*.—(Hanging, under grasp.) Arm bending, with or without assistance, until eyes are level with top of beam. (Fig 29.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Basic technique of walking with special attention to foot action, poise of body and co-ordination of leg and arm action. (Fig 33.)

and

2. *Running (3 minutes)*.—Basic technique of running with special attention to relaxation and correct arm, leg and foot action. (Fig 34.)

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

### 1. *Group activities.*—

#### (a) *Jumping*

(i) Walking up inclined bench and downward jump stepping off from one foot (benches 2 ft 6 ins high). (Fig 276.)

(ii) Jumping the bag. (Fig 278.)

(b) *Vaulting.*—(Side standing, one leg backward.) Oblique back vault landing on both feet with side of body towards apparatus (beam, waist-height.) (Fig 38.)

*Return activity.*—Forward roll (mat). (Fig 40.)

(c) *Climbing.*—Climbing one or two paces using arms and legs (vertical rope). (Fig 44.)

(d) *Balancing.*—(Balance standing.) Walking forward and stepping over medicine balls placed at intervals on beam, flat side uppermost, and on bench rib. Half the team use the beam and the other half the bench.

NOTE.—Men change round from one activity to the next every 3 minutes.

2. *Relay race.*—Arch and tunnel relay. (Fig 51.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Position of attention.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities or to have them in the same places in the lesson.

## TABLE B

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Choose one of the following each lesson :—

(a) One against three.

(b) Small groups.

2. *Arm and shoulder.*—(Astride.) Arm swinging forward—downward—sideways and circling backward. (Keep shoulders relaxed, hands loosely closed, and reach as high as possible in the circling movement.) (Fig 53.)



3. *Trunk*.—(Astride.) Trunk bending from side to side, one arm reaching downward, one arm underbending. (Keep body erect and arms as close to sides as possible.) (Fig 54.)

4. *Leg*.—(Feet closed.) Rocking slowly from heel to toe and from toe to heel. (Keep body erect and raise high on the toes in the heels raised position.) (Fig 283.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1-2), arm swinging forward—sideways (3). (Keep arms in line with shoulders and hands loosely closed throughout the exercise.) (Fig 56.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to four counts, followed by trunk unrolling to four counts. (The unrolling should be smooth and continuous.) (Fig 57.)

7. *Leg*.—Skip jumping. Later, skip jumping to crouch with finger support after given count. (Fig 3.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes).

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) Pushing wrestle. (Fig 59.)
- (b) Hopping tug-of-war. (Fig 60.)
- (c) Scrumming. (Fig 61.)

### 2. *Trunk*

#### (a) *Lateral*

#### Free-standing

- (i) (Side support, hip on floor, upper leg slightly backward.) Hip raising high with one arm raising sideways—upward. (Keep lower leg in line with body and make as high an “arch” as possible. Keep arms straight and fingers stretched during arm raising.) (Fig 62.)

or

- (ii) (In pairs, astride, side by side, facing opposite directions, inner feet crossed, elbows linked.) Tug-of-war. (Fig 63.)

or

#### Medicine ball

- (iii) (In pairs, astride, back to back, two or three yards apart.) Trunk and head turning throwing ball backward to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 64.)

*(b) Abdominal***Free-standing**

- (i) (Back lying, arms straight and close to body, palms on floor.) Knee raising high with head and shoulder raising. (Try to touch forehead with knees and keep arms straight throughout the exercise.) (Fig 65.)

*or*

- (ii) One knee raising high and pressing towards chest without assistance of hands, left and right. (Keep body as erect as possible.) (Fig 66.)

*or***Medicine ball**

- (iii) (In pairs, sitting, side by side, facing opposite directions, about 1 yard apart.) Leg raising and passing ball under knees to partner. (Keep legs straight.) (Fig 68.)

*(c) Dorsal***Free-standing**

- (i) (Prone lying, upward bend.) Trunk bending backward. (Bend as high as possible in back.) (Fig 68.)

*or*

- (ii) (One foot forward, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Bend as high as possible in back.) (Fig 69.)

*or***Medicine ball**

- (iii) (In pairs, astride, facing same direction.) Relaxed trunk bending downward, followed by trunk stretching upward throwing ball backward overhead to partner. (Keep arms straight and reach as high as possible when throwing ball backward.) (Fig 70.)

**3. Pulling, pushing, lifting and carrying***(a) Pulling and pushing*

- (i) Technique and practice of pulling, rope attached to derrick or one team acting as resistance. (Fig 71.)

*or*

- (ii) (In pairs, back to back.) Pushing backward (Fig 72), and pulling forward using two sticks. (Fig 73.)

*or*

(b) *Lifting and carrying*

- (i) Technique and practice of lifting from floor, carrying and lowering various shaped objects, 50–60 lb in weight. At this stage, lifting, passing and carrying relay races may be introduced, care being taken to insist on good technique. (Figs 74 and 75.)

or

- (ii) Fore and aft method of lifting, carrying and lowering an injured man. (Fig 76.)

4. *Heaving and abdominal*

- (a) *Heaving*.—(Hanging, alternate grasp.) Arm bending until eyes are level with top of apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus).

or

- (b) *Abdominal*.—(Hanging, over grasp.) Knee raising high to touch apparatus with insteps or shins (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 115.) Later (Hanging, over grasp.) Knee raising, leg stretching forward and lowering (wall-bars, beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 162.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of 5 miles per hour (approximately 73 yds per half-minute).

and

2. *Running (3 minutes)*.—Running at a speed of  $8\frac{1}{2}$  miles per hour (approximately 125 yds per half-minute).

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

(a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 3 ft to 5 ft (horse, benches, or improvised apparatus). (Jump downward and slightly forward.) (Fig 79.)
- (ii) Running forward high jump, gradually increasing height of apparatus from 2 ft (jumping stands and rope, low obstacle or improvised apparatus). (Fig 36.)



- (iii) Standing long jump over marked space. (The distance of the first line from the take-off line should be approximately 5 ft with additional lines every 6 ins up to approximately 8 ft.) (Fig 37.)
- (iv) Skipping exercises (a) with toe placing forward; (b) with astride jumping; (c) with skip running. (Fig 284.)

(b) *Vaulting*

- (i) Leap frog over man standing astride box or bench and with straight arms, bending forward and gripping the sides of it to form a back. (Fig 285.)
- (ii) Running vault with foot assisting (horse, beam or improvised apparatus, crosswise, gradually increasing height of apparatus from hip-height to chest-height). (Fig 82.)
- (iii) Knee-spring (horse, benches or improvised apparatus, crosswise). (Fig 39.)

(c) *Groundwork*

- (i) Two or more consecutive forward rolls (mat).
- (ii) Backward roll (mat). (Fig 84.)

(d) *Throwing*

- (i) (In pairs.) Throwing underhand or overhand to partner from standing position, left and right hand, and catching with one or both hands (competitive for speed). (Fig 85.)
- (ii) Lobbing ball, stone or dummy grenade, left and right hand, on to floor target. (Fig 86.)

(e) *Climbing*

- (i) Climbing vertical rope, using arms and legs. (Fig 44.)
- (ii) Climbing inclined rope, lying underneath with feet on rope, using arms and legs. (Fig 87.)

(f) *Balancing*

- (i) (Balance standing.) Walking forward and backward. Later, walking sideways (apparatus at about hip-height). (Fig 45.)
- (ii) Walking up sloping bench, either flat side or rib uppermost, on to beam fixed at about hip-height, walking along beam, flat side uppermost, and down another sloping bench. (Fig 88.)

(g) *Individual fieldcraft movements*

- (i) Blind Man. (Fig 89.)
- (ii) Practice of "going to ground" quickly (carrying stick to represent rifle). (Fig 48.)

(h) *Sprinting*.—Running on spot alternating with short spells of running with rapid steps. (Fig 90.)

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

(a) Over and under stick relay. (Fig 91.)

(b) Back support relay. (Fig 92.)

#### PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching with special attention to foot action, poise of body and co-ordination of arm and leg action. (Fig 93.)

### EXAMPLE OF TYPICAL LESSON MADE FROM TABLE B FOR RECRUITS OVER 35 YEARS OF AGE

*Duration*.—40 minutes.

*Class*.—30 men in their fifth week of primary training.

*Place*.—Outdoors, improvised apparatus only, consisting of medicine balls, sticks, barrack benches, log fixed on small oil drums, and climbing ropes attached to tree.

*Dress*.—P.T. kit and shoes, stripped to waist.

#### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Small groups.

2. *Arm and shoulder*.—(Astride.) Arm swinging forward-downward-sideways and circling backward. (Fig 53.)

3. *Trunk*.—(Astride.) Trunk bending from side to side, one arm reaching downward, one arm underbending. (Fig 54.)

*Quick reaction activity*.—Form groups of four men, followed by one against three.

4. *Leg*.—(Feet closed.) Rocking slowly from heel to toe and from toe to heel. (Fig 283.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow pressing backward (1-2), arm swinging forward-sideways (3). (Fig 56.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch ground with finger tips or palms of hands four times, followed by trunk unrolling to four counts. (Fig 57.)

7. *Leg*.—Skip jumping to crouch with finger support after fourth count. (Fig 3.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Pushing wrestle. (Fig 59.)

2. *Trunk*.—

(a) *Lateral*.—(In pairs, astride, side by side, facing opposite directions, inner feet crossed, elbows linked.) Tug-of-war. (Fig 63.)

(b) *Abdominal*.—One knee raising high and pressing towards chest without assistance of hands, left and right. (Fig 66.)

*Quick reaction activity*.—Chase him. On signal, run to places, take up starting position for next exercise.

(c) *Dorsal*.—(One foot forward, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Fig 69.)

3. *Pulling*.—Technique and practice of pulling (rope attached to tree, or one team acting as resistance.) (Fig 71.)

*Quick reaction activity*.—(In threes.) Skipping, using stick. (Fig 280.) On signal, run to benches ready for next exercise.

4. *Abdominal*.—(Hanging, over grasp.) Knee raising high to touch stick with insteps or shins (benches and stick, in threes).

## PART III.—ENDURANCE. (6 minutes)

1. *Walking* (3 minutes).—Walking at a speed of 5 miles per hour.  
and

2. *Running* (3 minutes).—Running at a speed of  $8\frac{1}{2}$  miles per hour.

## ART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—

(a) *Jumping and vaulting*.—Leap frog over man standing astride bench. (Fig 285.)

*Return activity*.—Running forward high jump over bench.

(b) *Throwing*.—Lobbing stone, left and right hand, on to ground target. (Fig 86.)

(c) *Climbing and balancing*.—Half the section practise inclined rope climbing, lying underneath with feet on rope (rope attached to tree and the other end pegged into ground). Other half section practise balance walking forward along log fixed at about hip-height.



(d) *Sprinting*.—Running on spot, alternating with short spells of running forward with rapid steps. (Fig 90.)

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race*.—Back support relay. (Fig 92.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching with special attention to foot action, poise of body and co-ordination of arm and leg action. (Fig 93.)

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE C

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

(a) Horses and jockeys.

(b) Carry man in threes race.

2. *Arm and shoulder*.—(Astride, one arm upward, one arm backward, hands loosely closed, palms facing inwards.) Arm changing with forward swing. (As one arm swings downward, the other arm swings upward. Keep hands loosely closed.) (Fig 94.)

3. *Trunk*.—(Astride, across bend, hands loosely closed.) Trunk and head turning from side to side with alternate arm swinging sideways. (Keep arms in line with shoulders, hands loosely closed and feet flat on floor.) (Fig 137.)

4. *Leg*.—Skip jumping with rebound. (Keep toes on floor during rebound.)

5. *Arm and shoulder*.—(Astride.) Arm swinging forward-side-ways. (Keep hands loosely closed and palms facing inwards during the forward swing and facing forward during the sideways swing.) (Fig 139.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor alternately forward and backward between feet to four counts, trunk unrolling to four counts. (Reach as far forward as possible in front of feet and as far backward as possible between feet.) (Fig 140.)

7. *Leg.*—(Hands on hips.) Hopping with leg swinging sideways. (Keep the swinging leg straight and swing as high as possible.) (Fig 58.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Choose one of the following each lesson :—

- (a) Ankle grasp pushing. (Fig 144.)
- (b) Stick wrestle. (Fig 100.)
- (c) Bull in the ring. (Fig 101.)

### 2. *Trunk*

- (a) *Lateral*

#### Free-standing

- (i) (Back lying, knees raised, arms sideways, palms on floor.) Knee swinging from side to side. (Keep shoulders on floor, and lower knees as near to floor as possible.)

or

- (ii) (Astride, arms sideways.) Relaxed trunk bending downward with turning to touch foot with opposite hand. (Try to touch knee with forehead.) (Fig 146.)

or

#### Medicine ball

- (iii) (In pairs, sitting astride, facing, 2 or 3 yds apart, ball held with both hands in front of one shoulder, trunk turned.) Pushing ball forward to partner from left and right shoulders alternately. (The push should be made with the hand which is at the back of the ball.) (Fig 147.)

or

#### Log

- (iv) (Astride, log held under one arm.) Trunk bending to opposite side with one arm reaching downward. (Keep log high up under arm and both legs straight throughout the exercise.) (Fig 148.)

- (b) *Abdominal*

#### Free-standing

- (i) (Back lying, knees bent, feet on floor, arms upward, palms facing inwards, hands loosely closed.) Trunk swinging forward-downward with leg stretching. (Slide heels along floor during leg stretching and also during the return movement and reach as far forward as possible.) (Fig 105.)

or

- (ii) (Hands on hips.) One leg swinging forward as high as possible, left and right. (Keep swinging leg straight.) (Fig 106.)

or

#### Medicine ball

- (iii) (In pairs, facing, back lying, knees bent, feet on floor, arms upward, ball resting on floor and held with both hands.) Trunk swinging forward-downward with leg stretching, throwing ball forward to partner. (Make the trunk swinging forward-downward a continuous movement.) (Fig 107.)

or

#### Log

- (iv) (Sitting, alternate sides, facing opposite directions, log held in crook of arms.) Trunk bending downward (lowering backward) and lowering backward (bending downward). (Fig 151.)

### (c) *Dorsal*

#### Free-standing

- (i) (Prone lying, arms sideways, palms on floor.) Trunk bending backward. (Keep palms facing floor and bend as high as possible in back.) (Fig 108.)

or

- (ii) (One foot forward, across bend, hands loosely closed.) Trunk bending backward. (Keep elbows in line with shoulders and bend as high as possible in back.) (Fig 153.)

or

#### Medicine ball

- (iii) (In pairs, sitting astride, back to back.) Relaxed trunk bending downward, followed by trunk stretching upward passing ball backward overhead with straight arms to partner. (Reach as high as possible and bend slightly backward when transferring ball to partner.) (Fig 110.)

or

#### Log

- (iv) (Astride, log held above head, arms straight.) Passing log backward slowly. (Fig 155.)

### 3. *Pulling, pushing, lifting and carrying*

#### (a) *Pulling and pushing*

- (i) Hauling on rope, one team acting as resistance, or rope attached to log or derrick. (Fig 156.)

or



- (ii) (In pairs, facing, one leg forward with bent knee, arms forward, hands grasping horizontal stick with over grasp.) Technique of pushing. (Fig 111.)

or

(b) *Lifting and carrying*

- (i) Lifting from floor and carrying articles of unit equipment 60-80 lb in weight, and of various shapes, along or over benches or other improvised obstacles. (Fig 112.)

or

- (ii) Fireman's lift, subject to be lifted from floor progressively from standing, kneeling and lying positions. (Fig 113.)

4. *Heaving and abdominal*

- (a) *Heaving*.—(Hanging, over grasp.) Arm bending, with or without assistance, to bring chest as near as possible to apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus). (Fig 161.)

or

- (b) *Abdominal*.—(One foot forward, under heave grasp.) Circling forward-upward, with or without assistance (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus, chest-height). (Fig 212.)

NOTE.—When either Group 5 or 6 (rifle exercises and shell exercises) is included in the lesson, either Group 3 or 4 (pulling, pushing, lifting and carrying, or heaving and abdominal) will be omitted. In the early stages, it may even be necessary to omit both of these groups.

Approximately 5 minutes should be devoted to either rifle or shell exercises.

5. *Rifle exercises*.—*Standard I. Elementary*.—Quick reaction activities involving the use of the standing aim in any direction indicated, using clock-face method, should be given during the following exercises:—

- (a) *Grip (Alternate grip release)*.—(Astride, arms downward, alternate grasp.) Releasing grip with each hand alternately. (The hand must be turned outward, i.e., palm to front, clear of the rifle. The position is held longer as strength is developed.) (Fig 163.)

- (b) *Dexterity (Rifle change)*.—(Astride, arms downward, alternate grasp.) Releasing grip and swinging rifle to reverse position. (The position of the hands on the rifle is changed with each swing. During the swing the rifle must pass from side to side through the vertical position in front of the body.) (Fig 164.)

- (c) *Shoulder (Rifle pointing sideways).*—(Astride, arms downward, alternate grasp.) Releasing left (right) hand grip and trunk turning with right (left) hand pointing rifle to left, and left (right) arm swinging sideways-backward and opposite heel raising. (The position is held longer as strength is developed.) (Fig 165.)
- (d) *Wrist (Under swing and check).*—(Astride, arms forward, elbows bent to a right angle, under grasp.) Releasing left (right) hand grip and swinging rifle downward-sideways to right (left) and checking when rifle is parallel with ground with left (right) hand. (The rifle should be swung at first with a pendulum swing from side to side, later checking and holding the rifle in the sideways position.) (Fig 166.)

#### 6. *Shell exercises.*—Series 1

- (a) Method of lifting a round. (Fig 167.)
- (b) (One foot slightly forward, over grasp, arms bent, shell held in front of chest.) Arm stretching upward. (Maintain a straight back and keep shell close to face during the arm stretching movement.) (Fig 168.)
- (c) (Astride, shell held in crook of arms in front of chest.) Trunk bending downward with increasing range. (Keep back and legs straight, and allow hips to sway backward.) (Fig 169.)
- (d) (Short astride, toes pointing forward, shell held in crook of arms in front of chest.) Knee full bending forward. (Keep back straight and heels on floor.) (Fig 170.)

Quick reaction games and activities should be included during the above shell exercises. Choose one or two each lesson from the following :—

- (a) Race round shell or shells, running, hopping, or quick walking.
- (b) Alter position of shell to face in named direction.
- (c) Jump over shell a given number of times.
- (d) Shell passing relay, variation A. (Fig 171.)

#### PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes).*—Walking at a speed of  $5\frac{1}{2}$  miles per hour (approximately 80 yds per half-minute).

and

2. *Running (3 minutes).*—Running at a speed of 9 miles per hour (132 yds per half-minute).

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities.*—Choose three or four of the following activities each lesson :—

### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot gradually increasing height of apparatus from 4 ft to 6 ft (horse, benches, or improvised apparatus). (Jump downward and slightly forward.) (Fig 116.)
- (ii) Running stride jump over marked space, ditch or trench. (Fig 80.)
- (iii) High jumps off both feet over series of low obstacles (benches or improvised apparatus). (Fig 81.)
- (iv) Running window jump (jumping stands and ropes, or improvised apparatus). (Fig 118.)
- (v) Skipping exercises (skipping rope).

### (b) *Vaulting*

- (i) Running through vault (horse, benches, or improvised apparatus, crosswise). (Fig 83.)
- (ii) Running face vault with bent knees (horse, beam, benches or improvised apparatus, waist-height). (Fig 119.)
- (iii) Running cat spring with astride vault off. Later, with through vault off (horse, or improvised apparatus, lengthways). (Fig 120.)

(c) *Groundwork.*—Forward roll followed by backward roll.

### (d) *Throwing*

- (i) (In pairs.) Lobbing overhand from standing position, left and right hand, for height over rope or beam. (Fig 124.)
- (ii). (In pairs.) Lobbing overhand from kneeling position, left and right hand, for distance and accuracy, followed immediately by falling to lying position. (Fig 177.)

### (e) *Climbing*

- (i) Climbing inclined rope, lying on top and using arms and leg. (Fig 126.)
- (ii) Climbing rope ladder. (Fig 178.)

### (f) *Balancing*

- (i) Stepping stones, hopping or jumping from foot to foot from small circle to small circle drawn on the floor at irregular distances from each other. (Fig 127.)



- (ii) (Balance standing.) Stepping forward on to ribs of several parallel benches or improvised apparatus placed at irregular distances apart. (Fig 128.)
- (iii) (Balance standing.) Walking forward and backward. Later, walking sideways (beam, flat side uppermost at about shoulder-height). (Fig 129.)

(g) *Individual fieldcraft movements*

- (i) The Leopard Crawl. (Fig 130.)
- (ii) The Roll. (Fig 131.)
- (iii) Running on spot, followed by "going to ground" quickly on signal, followed by standing up quickly on command and continue running on spot. (Carrying stick to represent rifle.) (Fig 132.)
- (h) *Sprinting*.—Sprint running alternating with slow running.
- (i) *Surmounting obstacles*.—Basic technique of surmounting obstacles with the minimum of effort.

*Indoor training*

- (i) Vaulting (beam, horse, logs or benches).
- (ii) Balance walking (beam, logs, benches).
- (iii) Crawling (beam, benches, logs or sticks).
- (iv) Jumping down from heights or over obstacles (shelf, beam, horse or benches).
- (v) Scaling (shelf or beam).
- (vi) Swinging (climbing rope, horse, beam or shelf).
- (vii) Walking up or down slopes (sloping logs or benches).

An example of an indoor obstacle course is given in Fig 135.

*Outdoor training*

- (i) Rolling over gate, fence or hedge.
- (ii) Scaling walls 6 ft to 10 ft high.
- (iii) Walking along planks or logs over ditches.
- (iv) Jumping stream, ditch or trench.
- (v) Jumping down from heights.
- (vi) Crawling under wire.
- (vii) Swinging from obstacle to obstacle by means of a rope.

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

- (a) Sprint relay. (Fig 133.)
- (b) Arch and straddle relay. (Fig 134.)

PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Marching with special attention to correct technique.

## EXAMPLE OF TYPICAL LESSON MADE FROM TABLE C FOR RECRUITS OVER 35 YEARS OF AGE

*Duration.*—40 minutes.

*Class.*—30 men in their third week of corps training.

*Place.*—Gymnasium or hall equipped with portable and improvised apparatus consisting of logs, dummy shells, jumping stands and ropes, benches, mats, skipping ropes and climbing ropes.

*Dress.*—Denim trousers and shoes, stripped to waist.

### PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity.*—Horses and jockeys.

2. *Arm and shoulder.*—(Astride, one arm upward, one arm backward, hands loosely closed, palms facing inwards.) Arm changing with forward swing. (Fig 94.)

3. *Trunk.*—(Astride, across bend, hands loosely closed.) Trunk and head turning from side to side with alternate arm swinging sideways. (Fig 137.)

4. *Leg.*—Skip jumping with rebound.

*Quick reaction activity.*—Saving imaginary goals and kicking in direction indicated.

5. *Arm and shoulder.*—(Astride.) Arm swinging forward-sideways. (Fig 139.)

*Quick reaction activity.*—George's 100 up.

6. *Trunk.*—(Astride.) Relaxed trunk bending downward to touch floor alternately forward and backward between feet to four counts, trunk unrolling to four counts. (Fig 140.)

7. *Leg.*—(Hands on hips.) Hopping with leg swinging sideways. (Fig 58.)

8. *Breathing.*—(Astride, hands on hips.) Breathing.

### PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity.*—Bull in the ring. (Fig 101.)

2. *Trunk.*—

(a) *Lateral.*—(Astride, log held under one arm.) Trunk bending to opposite side with one arm reaching downward. (Fig 148.)

*Quick reaction activity.*—Put log on floor and run round it twice finishing in the starting position for the next exercise.

(b) *Abdominal*.—(Sitting, alternate sides, facing opposite directions, log held in crook of arms.) Trunk bending downward (lowering backward) and lowering backward (bending downward). (Fig 151.)

(c) *Dorsal*.—(Astride, log held above head, arms straight.) Passing log backward slowly. (Fig 155.)

*Quick reaction activity*.—Climbing to top of log (one man from each team, other men in team holding log vertical.)

### 3. *Shell exercises*.—

(a) Method of lifting a round. (Fig 167.)

(b) (One foot slightly forward, over grasp, arms bent, shell held in front of chest.) Arm stretching upward. (Fig 168.)

*Quick reaction activity*.—Lower shell to floor and jump over it from side to side four times.

(c) (Astride, shell held in crook of arms in front of chest.) Trunk bending downward with increasing range. (Fig 169.)

*Quick reaction activity*.—Race round class and back to own shell.

(d) (Short astride, toes pointing forward, shell held in crook of arms in front of chest.) Knee full bending forward. (Fig 170.)

## PART III.—ENDURANCE. (6 minutes)

1. *Walking (3 minutes)*.—Walking at a speed of  $5\frac{1}{2}$  miles per hour.  
and

2. *Running (3 minutes)*.—Running at a speed of 9 miles per hour.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

### 1. *Group activities*

(a) *Jumping and vaulting*.—Running window jump (jumping stands and ropes.) (Fig 118.)

*Return activity*.—Running face vault with bent knees (benches). (Fig 119.)

(b) *Balancing*.—Walking along log (log resting on benches at about chest-height and firmly held at each end.)

Whilst waiting their turn at the log, men will practise stepping stones from circle to circle on the floor. (Fig 127.)

(c) *Groundwork and fieldcraft movement*.—Forward roll followed by backward roll (mats).

*Return activity*.—Leopard crawl. (Fig 130.)



(d) *Jumping and climbing*

(a) Skipping—practising various skipping exercises. (One half of the section.)

(b) Climbing inclined rope, lying on top and using arms and leg. (One half of the section.)

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race*.—Arch and straddle relay. (Fig 134.)

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Marching with special attention to correct technique.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## TABLE D

Quick reaction games and activities should be introduced during any part of the lesson, as required.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Choose one of the following each lesson :—

(a) Walking in circle ; on signal, rapid walking to pass man in front.

(b) Back support race.

2. *Arm and shoulder*.—(Astride.) Arm swinging alternately forward-backward and forward-upward-backward. (Keep body erect and hands loosely closed, with palms facing inwards.) (Fig 136.)

3. *Trunk*.—(Astride, hands on hips.) Trunk rolling. (Smooth, continuous circling movement with uniform speed throughout and passing through side bend position to one side, relaxed downward bend, side bend position to opposite side and slight backward bend position.) (Fig 233.)

4. *Leg*.—Skip jumping with leg parting after every third or fourth count. (Fig 141.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow circling backward slowly with shoulder rolling. (Keep body erect and shoulders relaxed.) (Fig 235.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to three counts followed by

trunk stretching upward with arm swinging sideways on fourth count. (Keep hands loosely closed and palms facing downward in the sideways position.) (Fig 190.)

7. *Leg*.—Astride jumping with arm swinging sideways, alternating with astride jumping with arm swinging sideways-upward. Later, both to a given number of counts. (Keep arms straight and fingers stretched.) (Fig 98.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Choose one of the following each lesson :—

- (a) Wrestle with partner and try to lift him off the floor (Fig 192.)
- (b) Arm lock wrestle. (Fig 143.)
- (c) Catch and pull tug-of-war. (Fig 233.)

### 2. *Trunk*

#### (a) *Lateral*

#### **Free-standing**

- (i) (Back lying, arms sideways, palms on floor.) One leg reaching across to touch floor with foot near opposite hand, left and right. (Keep shoulders flat on floor and legs straight.) (Fig 145.)

or

- (ii) (Astride.) Relaxed trunk bending downward with turning to grasp one ankle with both hands and trunk pressing downward with arm bending three times, changing to other side through the upright position. (Keep both legs straight and try to touch knee with forehead and bend arms outward during the trunk pressing downward movement.) (Fig 196.)

or

#### **Medicine ball**

- (iii) (In pairs, astride, facing same direction, several yards apart.) Trunk and head turning throwing ball backward over one shoulder to partner. (Keep body erect, arms straight and both feet flat on floor.) (Fig 197.)

or

#### **Log**

- (iv) (Astride, log held under one arm.) Trunk bending sideways towards log with opposite arm swinging

sideways—upward. (Keep fingers stretched during arm swinging movement.) (Fig 198.) Later (Astride, log held under one arm.) Trunk bending away from log with one arm reaching downward (1-4), followed by trunk bending towards log with opposite arm swinging sideways—upward (5-8). (Keep log high up under arm and fingers stretched during arm movements.) (Fig 244.)

*(b) Abdominal*

**Free-standing**

- (i) (Sitting, knees bent, feet on floor, arms downward, palms on floor.) Trunk lowering backward slowly with leg stretching to back lying position. (Stretch legs at same time as trunk is lowered backward.) (Fig 149.)

*or*

- (ii) Dead man in threes. (Fig 99.)

*or*

**Medicine ball**

- (iii) (In pairs, sitting, facing, ball held above head with straight arms.) Leg raising high with trunk lowering backward until toes touch ball, which is held on floor overhead, followed by trunk swinging forward—downward and throwing ball forward to partner as the body passes through the sitting, arms upward position. (Fig 201.)

*or*

**Log**

- (iv) (Back lying, log held in front of chest.) One leg raising to vertical position, left and right, with arm stretching forward. (Fig 202.)

*(c) Dorsal*

**Free-standing**

- (i) (Prone lying, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Bend as high as possible in back.) (Fig 152.)

*or*

- (ii) (One foot forward, arms sideways.) Trunk bending backward with arm turning upward. (Bend as high as possible in back and keep arms shoulder-height throughout the exercise.) (Fig 204.)

*or*



### Medicine ball

- (iii) (In pairs, astride, back to back, about 1 yd apart, arms straight, ball held in front of body with both hands.) Passing ball backward alternately overhead and between legs to partner. (Keep arms and legs straight throughout the exercise and bend as high as possible in back when passing ball overhead.) (Fig 205.)

or

### Log

- (iv) (One foot forward, facing, alternate sides of log, one hand under grasp, one hand over grasp.) Log circling forward and backward. (Make large circular movements with log.) (Fig 206.)

### 3. Pulling, pushing, lifting and carrying

#### a) Pulling and pushing

- (i) Pulling and pushing, using improvised gun-man-handling training apparatus. (Figs 253 to 255.)

or

- (ii) Pulling and hauling heavy tree stump, or several logs lashed together, on the flat or up slopes. (Figs 256 and 257.)

or

#### (b) Lifting and carrying

- (i) Lifting and carrying in twos, threes or fours, heavy articles of unit equipment. (Figs 209 and 210.)

or

- (ii) Fireman's lift from standing position, subject to be carried 50 yds in 30 seconds. Later, 100 yds in 60 seconds.

### 4. Heaving and abdominal

- (a) *Heaving*.—(Hanging, over grasp.) Arm bending, with or without assistance, until back of head touches front side of apparatus (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 211.)

or

- (b) *Abdominal*.—(Hanging, under grasp.) Circling forward-upward, with or without assistance (beam, tubular scaffolding, benches and stick, in threes, or other improvised apparatus.) (Fig 259.)

NOTE.—When either Group 5 or 6 (rifle exercises and shell exercises) is included in the lesson, either Group 3 or 4 (pulling, pushing, lifting and carrying, or heaving and abdominal) will be

omitted. In the early stages, it may even be necessary to omit both of these groups.

Approximately 5 minutes should be devoted to either rifle or shell exercises.

### 5. Rifle exercises

*Standard I. Intermediate.*—Quick reaction activities involving the use of the kneeling aim in any direction should be given during the following exercises. A visual or sound signal should be used for this purpose. The clock-face method may also be used to indicate the target.

- (a) *Grip (Alternate muzzle and butt lowering).*—(Astride, arms downward, alternate grasp.) Releasing left hand grip, lowering and raising muzzle, followed by releasing right hand grip, lowering and raising butt. (Fig 213.)
- (b) *Dexterity (Grip reversing).*—(Astride, arms forward, alternate grasp.) Reversing grip with each hand alternately. (At first the exercise should be done once only with each hand and then the arms lowered to the ready position for a short rest. After this, the exercise should be repeated. Gradually, as strength is developed, the grip should be reversed several times before the rifle is lowered.) (Fig 214.)
- (c) *Shoulder (One-handed swing round head).*—(Astride, arms downward, alternate grasp.) Releasing left hand grip swinging rifle round head with right hand. Repeat with left hand. (At first the rifle should be raised in front of body and face with both hands before the grip is released. Later, as strength is developed, the hand grip should be released as soon as the exercise is begun. The rifle must come to rest in both hands after each swing.) (Fig 215.)
- (d) *Wrist (Winding).*—(Astride, arms forward, over grasp.) Twisting rifle forward and backward in both hands. (Fig 216.)

### 6. Shell exercises.—Series 1

- (a) (Short astride, arms downward, shell held horizontal in front of body, left hand grasping base, right hand under grasp at driving band.) Bending right arm until shell touches left shoulder. Change grip and repeat with left arm. (Keep body erect and base of shell close to thigh throughout the exercise.) (Fig 217.)
- (b) (Astride, arms downward, shell held horizontal in front of body, alternate grasp.) Trunk and head turning. (Keep body erect and arms straight throughout the exercise.) (Fig 218.)
- (c) (Astride, trunk forward, arms downward, over grasp.) Arm bending until shell touches top of chest. (Keep back and legs straight.) (Fig 219.)

Quick reaction games and activities should be included during the above shell exercises. Choose one or two each lesson from the following :—

- (a) Change places with man on left or right, carrying shell.
- (b) First man with shell under left or right arm, or in any other named position.
- (c) Change shell with man opposite or man on left or right.
- (d) Shell passing relay, variation B. (Fig 220.)

### PART III.—ENDURANCE. (6 minutes)

1. *Walking and running* (6 minutes).—Walking paces alternating with running paces.

or

2. *Surmounting obstacles*.—As in Table C, Part IV, either indoors or outdoors, linking together a number of obstacles in the form of an obstacle course and introducing fieldcraft movements between obstacles. Later, surmounting obstacle course as a section.

### PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*.—Choose three or four of the following activities each lesson :—

#### (a) *Jumping*

- (i) (High standing.) Downward jump stepping off from one foot, gradually increasing height of apparatus from 6 ft to 8 ft, carrying rifle (horse, benches or improvised apparatus). (Fig 172.)
- (ii) Running forward high jump over obstacle 2 ft 6 ins high, carrying rifle. (Fig 268.)
- (iii) Running stride jump, or long jump, over marked space, ditch or trench, carrying rifle. (Fig 270.)
- (iv) Skipping exercises (skipping rope).

#### (b) *Vaulting*.

- (i) Running gate vault or gate roll (horse, beam, logs or improvised apparatus). (Fig 271.)
- (ii) Running side vault, carrying rifle (beam or improvised apparatus). (Fig 272.)
- (iii) Running astride vault (horse or improvised apparatus, crosswise). (Fig 174.)

#### (c) *Groundwork*

- (i) Hand-standing with or without assistance. (Figs 122 and 123.)
- (ii) Cartwheel. (Fig 224.)

(d) *Throwing*.—Lobbing ball, stone or dummy grenade, left and right hand through window target, from behind cover or round corners. (Fig 225.)



(e) *Climbing*

- (i) Climbing to a height of 12 ft to 15 ft up a vertical rope, twice, using arms and legs.
- (ii) Climbing scramble net. (Fig 227.)

(f) *Balancing*

- (i) Cat-walk up and down sloping benches, rib side uppermost or up and down logs (benches fixed in wall-bars at a steep angle or logs resting against beam and firmly held). (Fig 228.)
- (ii) Running along B. of E. bench, flat side uppermost, jumping gap on to another B. of E. bench and continue running, carrying rifle. (Fig 273).
- (iii) (Balance standing.) Walking forward, changing to cat-walk along log (log resting on supports at about head-height, and firmly fixed at each end). (Fig 229.)

(g) *Individual fieldcraft movements*

- (i) Revision of fieldcraft movements, carrying rifle.
- (ii) Running, "going to ground" quickly on signal, followed by leopard crawl, followed by standing up quickly on command and continue running.

(h) *Sprinting*.—Sprint race over a distance of 50 or 75 yds, carrying rifle.

2. *Relay race*.—Choose one of the following with which to end this part of each lesson :—

- (a) Wheel relay.
- (b) Composite activity relay, *e.g.*, over and under stick relay, followed by leap frog relay.

## PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.
2. Position of attention.
3. Marching in squad formation.

EXAMPLE OF TYPICAL LESSON MADE FROM  
TABLE D FOR RECRUITS OVER 35 YEARS OF AGE

*Duration*.—40 minutes.

*Class*.—30 men in their seventh week of corps training.

*Place*.—Gymnasium, fully equipped with fixed and portable apparatus.

*Dress*.—Denim trousers and shoes, stripped to waist.

## PART I.—MOBILITY. (5 minutes)

1. *Game-form running activity*.—Walking in circle ; on signal, rapid walking to pass man in front.
2. *Arm and shoulder*.—(Astride.) Arm swinging alternately forward-backward and forward-upward-backward. (Fig 136.)

3. *Trunk*.—(Astride, hands on hips.) Trunk rolling. (Fig 233.)

*Quick reaction activity*.—Reverse team direction.

4. *Leg*.—Skip jumping with leg parting after every fourth count. (Fig 141.)

5. *Arm and shoulder*.—(Astride, across bend, hands loosely closed.) Elbow circling backward slowly with shoulder rolling. (Fig 235.)

6. *Trunk*.—(Astride.) Relaxed trunk bending downward to touch floor with finger tips or palms of hands to three counts followed by trunk stretching upward with arm swinging sideways on fourth count. (Fig 190.)

7. *Leg*.—Astride jumping with arm swinging sideways, alternating with astride jumping with arm swinging sideways-upward. (Fig 98.)

8. *Breathing*.—(Astride, hands on hips.) Breathing.

## PART II.—STRENGTH. (12 minutes)

1. *Game-form strengthening activity*.—Arm lock wrestle. (Fig 143.)

2. *Trunk*.—

(a) *Lateral*.—(Back lying, arms sideways, palms on floor.) One leg reaching across to touch floor with foot near opposite hand, left and right. (Fig 145.)

*Quick reaction activity*.—Chain racing, finishing in starting position for the next exercise.

(b) *Abdominal*.—(Sitting, knees bent, feet on floor, arms downward, palms on floor.) Trunk lowering backward slowly with leg stretching to back lying position. (Fig 149.)

*Quick reaction activity*.—Horses and jockeys.

(c) *Dorsal*.—(Prone lying, arms behind back and slightly bent, back of right hand resting in palm of left hand, thumbs crossed.) Trunk bending backward with arm stretching downward. (Fig 152.)

3. *Pulling and pushing*.—Pushing on log versus pulling on rope. (Fig 208.)

4. *Heaving*.—(Hanging, over grasp.) Arm bending, with or without assistance, until back of head touches front of beam. Men not engaged in getting beams into position will do Chinese boxing.

## PART III.—ENDURANCE. (6 minutes)

*Indoor obstacle training*.—Waves of 4 men at a time going over simple indoor obstacle course at speed.

## PART IV.—AGILITY, DEXTERITY AND SPEED. (15 minutes)

1. *Group activities*

(a) *Jumping and vaulting*.—Running forward high jump over barrack bench, followed by running side vault over beam, carrying rifle.

(b) *Climbing and groundwork.*—Climbing to a height of 12 ft up a vertical rope, twice, using arms and legs. Those waiting for a turn at climbing practise cartwheels.

(c) *Balancing.*—Half the section practise cat walk up and down sloping benches, rib side uppermost and fixed in wall-bars at a steep angle. Other half section practise running along B of E bench, flat side uppermost, jumping gap on to another B of E bench, and continue running, carrying rifle.

(d) *Individual fieldcraft movements.*—Leopard crawl followed by hands and knees crawl, carrying rifle.

NOTE.—Men change round from one activity to the next every three minutes.

2. *Relay race.*—Composite activity relay—Over and under stick, followed by leap frog relay.

### PART V.—CARRIAGE. (2 minutes)

1. Re-form class in three ranks.

2. Position of attention.

3. Marching in squad formation.

NOTE.—The quick reaction activities are given merely as examples and it is not necessary to use the same activities, or to have them in the same places in the lesson.

## CHAPTER 3

### BASIC PHYSICAL EFFICIENCY TESTS

57. *The purpose.*—The purpose of the basic physical efficiency tests is to give the individual recruit an estimate of his relative physical efficiency at various stages of his training, and to encourage self-effort by creating a spirit of achievement in each individual. They also serve as a measure of the relative physical efficiency of the unit as a whole. The basic physical efficiency tests are of two kinds :—

(a) *Basic individual tests.*—

(i) To be carried out by all recruits during the final week of primary training.

(ii) To be repeated at least once every six months by all ranks of those units who do not do the basic achievement tests or battle physical efficiency tests. All ranks, other than those of medical category A1 will attempt those tests consistent with their medical category.

(b) *Basic achievement tests.*—To be carried out by recruits of all arms of medical category A1 during corps training, subject to the limitations laid down above.



All recruits at infantry training centres who fail to pass these tests before the end of their corps training will be considered by the physical medicine specialist for attendance at a command conditioning course. Such recruits will not be posted to infantry battalions of reserve divisions until they have passed the basic achievement tests.

58. *Basic individual tests.—General principles.*—Tests I to VII are divided into three groups—Agility, Strength, and Endurance, and all these tests must be attempted.

(a) The marks required to qualify as physically efficient in the individual tests vary according to age as follows:—

- (i) Officers and men of 30 years of age or under must gain 40 marks (57.1 per cent) with a minimum of 3 marks in each of the seven tests.
- (ii) Officers and men between 31 and 35 years of age (inclusive) must gain 35 marks (50 per cent) with a minimum of 2 marks in each of the seven tests.
- (iii) Officers and men between 36 and 40 years of age (inclusive) must gain 30 marks (42.8 per cent) with a minimum of 1 mark in each of the seven tests.
- (iv) Tests for officers and other ranks of 41 years of age or over are voluntary. This does not excuse them from attending PT parades.

(b) Shoes will be worn for all the tests except number VII, for which boots will be worn.

(c) Two attempts will be allowed in Tests I and II, one attempt only in the others.

(d) It is recommended that these tests should be carried out during a P.T. period, with the exception of the 5 miles walk, which should take place during an afternoon recreational period. The potted sports method should be used, leaving the 1 mile run to the last with all teams competing together. It is advisable to commence the period with Part I of the Table as a warmer, and to end with the Part V exercises.

## THE BASIC INDIVIDUAL TESTS AND SCALES OF MARKS

### Agility

#### I. *Running high jump*

3 ft = 1 mark.

Each extra 2 ins = 1 mark up to a maximum of 10.

#### II. *Running long jump*

11 ft = 1 mark.

Each extra 6 ins = 1 mark up to a maximum of 10.

15 ft 6 ins = 10 marks.

## III. 100 yards sprint

17 secs	= 1 mark.
16 "	= 2 marks.
15 "	= 3 "
14 "	= 5 "
13 "	= 7 "
12 "	= 10 "

## Strength

## IV. Hanging over grasp. Raising knees high to touch beam, bar or stick with insteps or feet (pause between each raise).

Once	= 1 mark.
Twice	= 3 marks.
3 times	= 4 "
4 "	= 5 "
5 "	= 7 "
6 "	= 10 "

## V Hanging alternate grasp, facing beam, bar or stick. Bending arms to bring eyes to level of hands. (Pause between each heave while in the arms stretched position).

Once	= 1 mark.
Twice	= 2 marks.
3 times	= 3 "
4 "	= 4 "
5 "	= 5 "
6 "	= 6 "
7 "	= 7 "
8 "	= 8 "
9 "	= 9 "
10 "	= 10 "

## Endurance

## VI. 1 mile run

7 mins	20 secs	= 1 mark.
7 "	10 "	= 2 marks.
7 "	0 "	= 3 "
6 "	50 "	= 4 "
6 "	40 "	= 5 "
6 "	35 "	= 6 "
6 "	25 "	= 7 "
6 "	15 "	= 8 "
6 "	5 "	= 9 "
5 "	55 "	= 10 "

## VII. 5 miles road walk

62 mins	= 1 mark.
61 "	= 2 marks.
60 "	= 3 "
59 "	= 4 "



58 mins	=5 marks
57    "	=6    "
56    "	=7    "
55    "	=8    "
54    "	=9    "
53    "	=10   "

**59. Basic achievement tests.—General principles**

- (a) The first six tests will be carried out by all recruits undergoing corps training who are 38 years of age or under and of medical category A1. Test No. VII will be carried out whenever possible.
- (aa) When high degrees of temperature and humidity prevail, endurance training and endurance tests will be carried out during the cooler periods of the day. Endurance training and tests will not be preceded by, or followed by, other forms of training which demand strenuous physical effort. If there is any doubt as to whether or not endurance training or tests should take place, the advice of a medical officer will be obtained.
- (b) Dress—Battle Order, without arms and ammunition. For Swimming Test *see* VII below.
- (c) As with the basic individual tests, the basic achievement tests may be carried out during a P.T. period, on the potted sports method.

## THE BASIC ACHIEVEMENT TESTS

### Agility

- I. Clear jump with direct approach over a 2 ft 6 ins high wall, or fence (log or beam can be used).
- II. Clear an 8 ft broad ditch.

### Strength

- III. Climb a 12 ft vertical rope twice, without a pause in the standing position after the first descent. The chin must be level with the 12 ft mark before the descent is begun.
- IV. Carry a man of approximately the same weight by fireman's lift from standing position 100 yds in 1 minute.

### Endurance

- V. March five miles in 1 hour.
- VI. Run 1 mile in 9 minutes.

### Swimming

- VII. Swim 30 yds in fresh, or 50 yds in salt water, dressed in denims, and remain out of depth for 2 minutes. It is not necessary to remain floating during this period, treading water and swimming around are permissible.



## RECORDING OF RESULTS

60. The results of the above tests will be recorded in the soldier's AB64 (Part I), page 4 and in AB142 (War). The record will show the date on which the soldier was tested and the result, "Passed" or "Failed", of each separate test. This does not apply to basic individual tests where the result "Passed" or "Failed" depends on the total marks gained in all tests.

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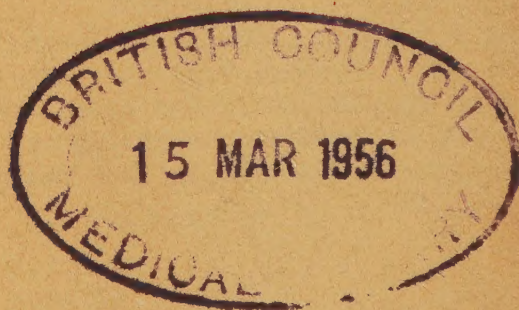
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